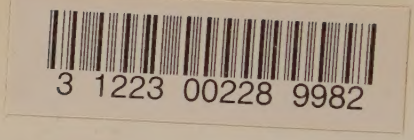
SAN FRANCISCO PUBLIC LIBRARY
3 1223 00228 9982


3 1223 00228 9982

DATE DUE

NOV 1 5 1993

JUN 2 8 1995

9.029c795

Printed in USA

371.

DR. MARIA MONTESSORI

A GUIDE TO THE MONTESSORI METHOD

BY

ELLEN YALE STEVENS

WITH FOUR ILLUSTRATIONS FROM PHOTOGRAPHS

SECOND EDITION

NEW YORK
FREDERICK A. STOKES COMPANY
MCMXIII

Copyright, 1913, *by*
FREDERICK A. STOKES COMPANY

All rights reserved, including that of translation into foreign languages, including the Scandinavian

371.4
St47
671678 A

February, 1913

THE·MAPLE·PRESS·YORK·PA

DEDICATED

BY PERMISSION TO

PROFESSOR JOHN DEWEY

WHO BY HIS TEACHING AND WRITING HAS PREPARED
THE MINDS OF THE AMERICAN PEOPLE
TO RECEIVE THE THEORIES
OF DR. MONTESSORI

PREFACE

It is more than twelve years ago that an illuminating course in Educational Psychology which I took under Professor John Dewey, then of the University of Chicago, directed what had until that time been on my part only a general interest in psychology, toward the specific question of the relation of various educational theories to the truths of child psychology. The interest so directed was further stimulated by my relations with Professor Thorndike of the Teacher's College in connection with his courses in methods there. The subsequent years of experience as principal of a school which includes a kindergarten and primary department in its curriculum, and as a teacher of elementary psychology to the older pupils, have given concrete opportunities for putting theories into practice.

The last fifteen months have been largely devoted as time permitted to an intensive study of Dr. Montessori and her principles of education including not only her book, "Pedagogica Scientifica," and its translation into English, "The Montessori Method of

Scientific Pedagogy,"[1] but a three months' trip to Italy where I had the advantages of personal conferences with Dr. Montessori and the best exponents of her "method," and also of extended visits to all the schools in Rome where her methods have been introduced. My belief in the value of her theories and methods is based upon a conviction which this study and observation has deepened, that her educational principles have a firm philosophical and psychological foundation; a belief which my experiments with American children since my return, have still more intensified.

My only excuse, therefore, for adding one more to the books which have already been published as a result of the growing interest in England and America in this remarkable woman and her theories, is that in none of them have I found such a testing of these theories and methods by the principles of modern child psychology as to me seems necessary for an accurate estimate of their value. Neither have I found in them a sufficient emphasis placed on the spirit which animates the "method."

[1] *The Montessori Method of Scientific Pedagogy*, translated by Anne E. George, New York: Frederick A. Stokes Company.

There are always two dangers threatening any new movement which awakens such popular enthusiasm as this has: either that it will be crystallised into a hard and fast system; or, because too thoughtlessly exploited and too over-praised at first, that it will suffer the fate of many earlier methods, which, unable to meet the expectations aroused in the public mind by uncritical enthusiasts, have been loudly hailed only later to sink into oblivion. From the beginning of my interest in this Italian doctor and teacher I have deprecated the word "method" in connection with her, for nothing so fixed can properly describe anything so fluid as her own attitude of mind. I have also deprecated the hasty adoption of these methods before there is in this country a body of teachers who have been trained under Dr. Montessori, for I feel that we should emulate her patience, her untiring devotion, her readiness to give up years of her life in order to test her beliefs by experience.

It is therefore with a genuine desire to make clear what seems to me to be the psychological basis of her methods as well as to summarise and interpret the principles

underlying them, so that the spirit which animates them may become a living force in America, that I offer this study of these principles and of their concrete embodiment in the material now so familiar to the American public. I also make some suggestions for possible amplification and adaptation to the pressing needs of our own country which are the outcome of an experiment made last summer in using the material with a group of American children.

I also venture to hope that such an interpretation of Dr. Montessori's educational theories and practice will disabuse the minds of its readers of many misconceptions which have arisen since the first introduction into America of the "Montessori Method."

Acknowledgments are due to Miss Anne E. George, first Montessori directress in America and translator of "The Montessori Method," who by her enthusiastic and practical help changed my first general interest in the subject into a keen desire to go to Italy and study Dr. Montessori and her work. My thanks are due, also, to several others who have read the manuscript and proofs and helped me with their suggestions and criticisms.

CONTENTS

CHAPTER		PAGE
	PREFACE	vii
I	THE FOUNDER AND THE SCHOOL . *"A socialised school in a socialised home."*	1
II	CONTROLLING IDEAS; LIBERTY THROUGH DISCIPLINED ACTIVITY AND INDEPENDENCE . . . *"The triumph of discipline is through the conquest of liberty and independence."*	17
III	SELF-DISCIPLINE THROUGH OBEDIENCE . . . . . *"To obey it is not only necessary to wish to obey but to know how."*	35
IV	THE TWO-FOLD AIM OF EDUCATION . . . . . *"Our aim in education is two-fold—biological and social."*	49
V	PHYSICAL EDUCATION. . . . . *"The aim of education is to develop the energies."*	61
VI	SENSORY EDUCATION . . . . . *"A game is a free activity ordered to a definite end."*	72
VII	FROM SENSATIONS TO IDEAS . . . *"The greatest triumph of our education should be to bring about the spontaneous progress of the child."*	103

CONTENTS

CHAPTER		PAGE
VIII	"THE THREE R'S" IN A NEW FORM *"A great deal of time and intellectual force are lost in this world because the false seems great and the truth so small."*	114
IX	THE MONTESSORI PARENT *"The social environment of individuals in the process of education is the home."*	134
X	THE MONTESSORI TEACHER. *"There exists only one real biological manifestation—the living individual; and toward single individuals, one by one observed, education must be directed."*	154
XI	THE MONTESSORI MOVEMENT AND ITS CRITICS *"An elementary school loyal to the principles of respect for the freedom of the child and its spontaneous manifestation."*	181
XII	THE DEEPER MESSAGE OF MONTESSORI *"Humanity growing in the spirit according to its own deep laws."*	204
XIII	A SUGGESTION FOR THE SUMMER. *"A Montessori Playhouse."*	213
XIV	A SUGGESTION FOR THE SUBURBS. *"The property of the collectivity."*	229

A GUIDE TO THE MONTESSORI METHOD

A GUIDE TO THE MONTESSORI METHOD

CHAPTER I

THE FOUNDER AND THE SCHOOL

"A socialised school in a socialised home."

No one who has not visited Rome within the last decade and studied with more than a tourist's ephemeral interest the modern city which overshadows the ruins of the past can have any idea of the social, political and educational renaissance which has come to it.

I beg any reader of this book to put away at once that conception of Rome as "The Mother of Races," "The Eternal City," "The Niobe of Nations," which has grown up in his mind as a result of the emphasis usually given to Rome in her relation to the past in history and art, and obtain instead a vivid impression of her as the capital of a strong, young nation, full of vitality and enthusiasm, ready to play a leading part in the world drama.

If Rome is eternal it is because she is ever young; her Janus gate is open to the East and she must be thought of as in the van of the forward movement of our time. Unless one has such an attitude of mind, the first sight of the enormous monument to Vittorio Emmanuele comes as a rude shock for it seems an example of vandalism as it haughtily usurps the first place in any view of the city and almost rudely shoves into the background those famous relics of medieval and ancient times, the Capitol, the Forum and the Colosseum. But to one who studies Rome as she really is, this magnificent expression of gratitude, this tribute to Vittorio as her emancipator is suggestive. United Italy, a city saved from fever by the dyking of the Tiber, the Campagna freed from malaria, are some of the gifts of that great soldier and patriot, gifts which make possible the clean, hygienic, expanding Rome of to-day.

There are many men and women who are making this city what she is rapidly becoming, the real capital of modern Italy; but to those who are interested in the education and welfare of children, Maria Montessori stands out pre-eminently as a noble example

of the New Woman, one whose genius and wonderfully sympathetic insight into the heart and mind of a child have awakened the interest of the whole world in her theory for the education of children.

The great engineering feats which resulted in the dyking of the Tiber and the draining of the Campagna in the last quarter of the 19th century made possible not only the expansion of Rome beyond the walls which had confined it so long, but the utilisation for building purposes of land along the banks of the Tiber within the city gates which heretofore had been plague spots of disease due to the overflowing of this river. As so often happens the first effect of these two engineering feats was a feverish activity in real estate transactions followed by the hasty erection of poorly planned and cheaply built blocks of buildings in all parts of the city and its new suburbs, until the "boom" so thoughtlessly created caused about twenty years ago a panic and a complete collapse of building activities. At this moment Edoardo Talamo, seeing the possibilities of expansion, seized his opportunity and by the establishment of the Real Estate Association of the "Beni Stabili" and by his

design for model apartments which he calls the "Casa Moderna" not only did much to help solve the great housing problem, but turned the tide of ruin into a wave of prosperity, which has not yet run its course.

About twenty years ago Dr. Montessori was a young girl of great beauty and charm who had recently been graduated as a Doctor of Medicine, the first woman to receive that degree from the University of Rome. Her first medical practice was in a clinic and hospital for deficient children connected with the University of Rome where she had an opportunity to test upon these children the theories she already possessed as to the possibilities of education. Her belief that mental deficiency was a pedagogical rather than a medical problem was justified by the results obtained, and a course of lectures on the education of the feeble-minded which she gave to teachers resulted in the establishment of the state schools for defectives which she directed for over two years.

After visits to London and Paris, where she studied in the hospitals for the feeble-minded, she gave herself up with her usual whole-hearted enthusiasm to teaching deficients and training their teachers. Her basic

principle of setting free the personality of each deficient child by methods adapted to him became such a controlling idea that she reached the conclusion that similar methods applied to normal children would have equally marvelous results. She then began a more thorough study both of remedial and normal pedagogy, registering as a student of philosophy in the University, where she made a most exhaustive study of the works of her great predecessors Itard and Séguin, and the Italian masters of pedagogical anthropology, Sergi and Di Giovanni. These studies, combined with other researches into pedagogical anthropology in the schools, resulted in her appointment as lecturer on anthropology in the University of Rome. The course of lectures she gave there was later published and has now been translated into English.[1]

The year 1907 is an important one in the history of the Montessori movement for it marks the moment Dr. Montessori, who had up to this time worked along separate lines, was invited to form the first "Casa dei Bambini" or "Children's House" in the

[1] *Pedagogical Anthropology*, translated by Frederic Taber Cooper. New York: Frederick A. Stokes Co.

model tenement built by the Beni Stabili Association in the quarter of San Lorenzo. This quarter of the city, just outside the gate of that name, was one of the poorest in Rome and had suffered most from the collapse of the building scheme spoken of above. The poorly built and badly planned dwellings erected at the time the speculative fever was at its height had been diverted from their original purpose and were now occupied by the poorest and most vicious of the people, who herded together in defiance of all sanitary and moral laws. This association had bought up many such blocks and by judicious demolition and reconstruction had transformed them into neat, hygienic apartments, which could be rented at a low cost. It was Talamo's brilliant idea to make the child the central thought in these new homes, to plan for his health, education and care during the long day while his parents were absent as wage earners; and to develop in these parents, as residents, through their love for their children, respect for and care of the property.

The psychological moment that saw the opening of the first model tenement of the Beni Stabili was that of the completion of

Montessori's long years of study and teaching; and the invitation to her to direct the schools of this association in these buildings was an inspired act which made possible the spread of her ideas all over the world. For in the various *Case dei Bambini* or Children's Houses which quickly followed that first one in the quarter of San Lorenzo, Montessori again had an opportunity to test her basic principle of freeing the personality and latent energy of the child and helping his self education through materials and methods scientifically adapted to his individual needs. The fifteen years that had elapsed since her initial effort with deficient children had trained a remarkable creative genius able to mold together into one rational system of education the best that had been discovered in the past. She herself says that fifty years of medico-pedagogical study by Itard, Séguin and herself are embodied in her system. It is also an evolution from the work of her great forerunners in education, Rousseau, Pestalozzi, Herbart and Froebel.

It is because I believe so strongly in the value of this experiment as a social movement that I am desirous that American

students of Montessori should understand the practical, philanthropic work of the Beni Stabili Association as well as the educational principles of Montessori. During the six or seven years since the formation of this company, not only has the practical foresight of its promoters been justified (for I was told that dividends of 7% were paid on its stock), but the social necessity for co-operation in modern city life has been proved, as each new block provides more and more for the common life of its tenants. The school in each block, which was open to the children of all the tenants, had resident teachers ready to advise with each parent and was supported by the fund originally set aside for repairs, which the new interest and thrift of the tenants made unnecessary. It was only a succession of logical steps which led to the addition of baths, infirmaries, rooms for the storage of bicycles and baby-carriages, a laundry open to each tenant in turn, a room with sewing-machines free to all and finally a common kitchen where most of the cooking could be done. The officers of this association realise that conditions differ in various parts of Rome where the populace is

grouped into separate classes more than with us, and have planned three or four types of blocks: one for the very poor, where both parents are wage earners; one for the lower middle class where the father is a constant and the mother an occasional wage earner; one also for the upper class whose members can afford apartments with every luxury and perfection of detail. They have thus avoided the mistake made twenty years ago when large and expensive structures were erected in portions of the city where the poor congregate, which had proved to be unsuited to their needs and therefore were subdivided and sub-let until they became centers of congestion, disease, and even vice and crime. In all these blocks whether for the poor or the rich I found the welfare of the child had been the central thought in their construction and in each a large measure of co-operation was provided for. Although it is not possible in a great city like New York or London, where the area is so limited and the population so immense, to afford the ground space which is used in Rome for one of these ideal tenements, it would be quite feasible to plan a socialised school on the "sky

scraper" order with two or three floors in it set aside for the school, teacher's apartments, library, bath and infirmary and with a garden or out-of-door school on the roof. There are, however, many cities in this country and in England, like the "Garden Cities," that can with profit study their own housing problem in the light of what this association has accomplished.

At the time of this writing, Dr. Montessori has unfortunately no connection with the *Case dei Bambini* of the Beni Stabili or with the Municipal schools. She has therefore no voice in the selection of teachers and should not be held responsible for faulty methods which have been allowed to creep in. The Convent School in Via Giusti and her own school in Via Principessa Clotilde are the only ones at present under her direct supervision. Before these words are in print, I trust that plans now maturing which will give her control over other schools will have gone into effect. The Convent School has been so often described that its main features are familiar to Americans. It is a most interesting and significant fact that among the most loyal supporters and enthusiastic followers of La Dottoressa are

numbered these missionary sisters of St. Frances who have opened their convent to her, given part of their buildings and ground over for a school, and harboured visiting sisters from many lands who are learning the method with a view of introducing it all over the world. Many of the children in this school are orphans from the Messina earthquake; others come from poor families in the neighbourhood. The high vaulted schoolroom, the beautiful cloisters enclosing two quadrangles attractively laid out with trees, shrubs and flower beds, the high enclosing walls, create an ideal environment to which the children seem to respond.

In strong contrast to this school is the one which the Doctor herself directs in her own beautiful apartment near the Piazza del Populo. Here the group is small, selected from amongst the children of personal friends and admirers, and the children are older than those in the other schools. Before long it is to be hoped that a record of the result of this experiment as it carries the principles up into the elementary school, will be published.

Maria Montessori so far in her life has gone steadily on, giving in turn to each

problem as it was presented to her that concentrated, absorbed attention which is so characteristic of her. In addition to a wonderful, magnetic personality, she possesses creative genius, an almost religious consecration to her life work, and a practical ability to embody her ideas in concrete form. That her principles are universal and general is shown, I think, in the variety of forms in which they have found expression as well as in their adaptation to manifold needs. Not only the feeble-minded, not only the children brought together for care and training from the homes of poor wage earners, but those from well-to-do or luxurious homes respond to her teaching and develop most wonderfully in self-control and liberty of thought and action. I therefore believe that although America cannot, at present anyway, have the direct inspiration of Maria Montessori's personality, the universal appeal found in her spirit and controlling ideas will be responded to by our parents as well as our educators.

Since these words were written the opportunity has been provided for our American and English teachers to obtain training in Rome under Dr. Montessori and to observe

and practise in the Montessori schools there.

The psychological moment is here and now in the United States as well as in England as it was in Rome in 1907. A wave of unrest has spread over the whole country. Our system of education from the kindergarten up through the university is open to attack as never before. The chapter from the book of Ezekiel, so aptly quoted by Dr. Montessori in her book, has its application to us also. Our dry bones of educational practice need the breath of the spirit to pass over them and cause them to arise and unite into a new and living organism. Destructive criticism is always unwise because it only creates a feeling of dissatisfaction without suggesting any remedy. Our books, newspapers and magazine articles have been full of such destructive criticism until, if one reads widely, the conclusion seems unavoidable that educationally we are rapidly going to the dogs. These problems and doubts, once confined to the teachers alone, are now shared by the tremendous reading public of our day, and parents as well as teachers are asking what is to be done. Much has already been

accomplished in our country; more than in Italy we have our classes for deficients, our vocational schools, our "intelligence tests" for entering pupils, our trained educational psychologists whose alert minds are seeking the answer. But as yet it is all somewhat chaotic and disorganised. We need just at the moment a uniform principle of universal application to which psychologists, educators and parents will alike respond. If Maria Montessori can give us such a principle and such an object lesson in its demonstration as her didactic material, so called, provides for, let us send our best to sit at her feet in Rome open-minded and sympathetic, that they may absorb some of her spirit, her insight and her wisdom. Then let them return to us able to point out the proper application of this spirit to our own problem, the American child.

Let us avoid if we can a repetition of the history of the kindergarten movement. The genius of Froebel was after his death curbed and fettered by devotees who held blindly to a system which seemed on the surface so simple. The games, gifts and occupations he devised appeared to have in the minds of his disciples a kind of sanc-

tity, so that it seemed to them a desecration to make any changes, and the portrait of Froebel himself that as a necessary feature of each kindergarten was supposed to inspire both teacher and children, was really a symbol of the slavish adherence of his followers to the letter rather than the spirit of his doctrines. Then when "all had found the seed," the system instead of the genius of Froebel was seized upon by half-taught young girls, and the whole movement fell into disrepute until it was rescued by the educational psychologist and real educator and given back to us as Froebel would wish, not fixed in the dress he gave it, but garbed in a manner suited to the children of our own time.

Let us take warning from this history and protect the Montessori method from a like fate by guarding it from hasty, unconsidered, too literal adoption. Let us study Dr. Montessori's spirit and controlling ideas and then test them by modern child psychology. Let us use her wonderful material as not abusing it but with flexibility and freedom while keeping fast hold of the principles it embodies. In this way educators and parents can work together, in the

school and home alike, to give our children their birthright of freedom in this century of democracy and, by setting free their personality and leading them to self-control, self-training and many-sided development, teach them how to utilise the tremendous fund of nervous energy latent in every child.

CHAPTER II

CONTROLLING IDEAS; LIBERTY THROUGH DISCIPLINED ACTIVITY AND INDEPENDENCE

"The triumph of discipline is through the conquest of liberty and independence."

THE previous chapter contains frequent allusions to the controlling ideas or principles which have inspired Dr. Montessori in the invention and construction of her didactic material, but a fuller study of them should precede any discussion of this material. In her book, "The Montessori Method of Scientific Pedagogy," these principles are, of course, fully set forth, but it may prove helpful if they are here brought together in orderly fashion and studied by themselves. It is always much easier to follow a method blindly than to make our very own the principles which it illustrates, and this material in its very appeal to the parent and teacher on account of its simplicity, practicality and concreteness may, in the minds of many, take the first place

and be adopted without thought of the spirit behind it.

Dr. Montessori emphasises over and over again these ideas: that the personality of the child must be liberated by methods adapted to his individual needs; that his inherent nervous energy must be conducted into channels of organised activity; that liberty through activity must be the ideal for discipline; that the child's natural love of work for the work's sake and the very joy of doing it should be given a free field for its development; that true education involves self-training and is to that extent auto-education; that the part of the teacher is to suggest, to guide, but not to dictate; that reward comes from the work itself and not from anything extraneous: that true self-discipline makes our so-called prizes and punishments unnecessary; that before any group work with children, there should come the complete understanding between each individual of the group and its director so that each responds; that fundamental training in righteousness begins when the child spontaneously and happily follows the laws of his own development; that obedience, instead of being the breaking of the child's

will to subject it to that of another, is really the complete expansion of his whole nature when he not only desires but knows how to follow a command. Children "are virtuous because they exercise patience in repeating their exercises, long-suffering in yielding to the commands and desires of others, good in rejoicing in the well-being of others without jealousy or rivalry; they live doing good in joyousness of heart and in peace, and they are eminently, marvellously industrious."

Dr. Montessori would not for a moment wish us to believe all these ideas are original with her, for of course many of them are implied or expressed in all educational theories, but I think she can claim to be the first one to give to the world a rational theory of education based upon true biological, anthropological and sociological laws, together with the concrete embodiment of this theory in a set of material which has been tested by years of study and experience.

Physicians, psychologists and educators are alike interested in the right development of child life from differing points of view and usually each sees the problem from

his own particular angle of vision; but in Dr. Montessori we have the rare combination of a physician of wide experience, a psychologist and anthropologist of deserved reputation, and an educator who has devoted years of her life to the education of children and the training of teachers. This remarkable threefold experience has come to a woman of creative and inventive genius and of tireless enthusiasm, capable of devoting all her energies with intense concentration to the special problem she is seeking to solve. If we compare her life history with what we know of that of Rousseau, Pestalozzi or Froebel, we appreciate its breadth. Rousseau, the brilliant theorist whose ideas startled and moulded the thoughts not only of the France of his day, but of our own country, could not put his own theories into practice. Pestalozzi's genius was confined to a little German village and hampered by poverty and ill health. Froebel, probably the greatest genius of the three, had intuitive understanding of child life, but living as he did a century ago could not benefit by the scientific expansion of knowledge which the twentieth century has inaugurated. To Dr. Montessori then, who

has enjoyed the opportunities lacking to her predecessors, we can listen with respect as we do to any specialist who has by genius and experience placed himself at the head of his profession. Let us study in detail the principles underlying her system of education with sympathetic, respectful attention, with an open mind and with no spirit of carping criticism.

The key-note is liberty, in the broadest, fullest meaning of that often misunderstood term. Liberty to her means the liberation of the life power within the child to untrammelled, spontaneous, manifestation within the limitations of its biological and social conditions; a universal principle which as yet has only been partially apprehended or applied by us in our system of education. As long as the teacher is the dominating force in the school so long will there be some form of slavery rather than liberty. When, as in this method, the teacher takes a secondary place in order to observe and experiment, then true liberty for the child really begins. This idea of liberty is biological, for it is based on the nature of the child as a human being rather than as a plant or an animal. The child is not only born help-

less but comes into the world as a social individual, a member of society, so his activity is limited both by his characteristic helplessness and by his relation to other human beings as that of a flower or an insect is not. A system of education which has this watchword of liberty as its basis must help the child conquer these obstacles and lead him towards independence, and must seek to surround him with those conditions best adapted to the perfect development of his whole personality, including his physical, mental and spiritual life. Biologically speaking, there is only one real manifestation, the living individual, not the class or race, which are abstract classifications; therefore education should concern itself more and more with the observation and training of single individuals. Education thus conceived includes the active help given to assist the normal expansion of the complete life of the child, both in soul and body, the care not to stifle the individual manifestations of this life force, and the patient waiting for the gradual flowering of each personality.

Again, the biological conception of liberty, as the freeing of the life force, regards envi-

ronment as a secondary rather than a primary factor. Dr. Montessori acknowledges her debt to De Vries, the brilliant botanist, whose theory of mutation or change as opposed to variation of species has guided her thought along parallel lines. Environment can modify because it can help or hinder development, but it cannot create. It can hold life within a certain limit and control it by fixed laws, but it cannot originate. Therefore, biologically considered, education is limited as it works on the life force through environment. We can act on the variation but not on the mutation; we can modify but not create. The stronger the life force, the less it is affected by environment; on the other hand, the feebler the native power and capacity, the greater is the opportunity for modification by its environment. Such a theory helps us to understand the anomalies and the apparent paradoxes in education. It explains not only Shakespeare but the many men of history of whom we learn in our schools who have apparently succeeded in spite of their schooling. We understand also how human progress persists in spite of error and wrong forms of education and religion. Envi-

ronment, then, can favor or stifle life and so is an important factor in education, as we shall see more fully when we study it as a feature of the method; but the great truth is, as Montessori says, "Life is a superb goddess, always advancing and always overcoming obstacles which environment may place in the way of her triumph." It is life, therefore, that we should cherish and nurture, "Life for which our spirits pant."

Liberty thus thought of involves activity, but that activity must be disciplined, and at this point we arrive at another great controlling idea, that of discipline through liberty.

Just as our minds were expanded to receive a new conception of liberty, so now they must be enlarged again to this inspiring conception of discipline, formerly a bugbear of the school and the nursery. I wish nurses and governesses could have a course of training in this method of discipline so that the careful work begun each day in our kindergartens and schools by thoughtful, trained teachers would not be undone as the thoughtless, uneducated nurse greets the child as he leaves the schoolroom with the fatal words, "Have you been

naughty?" or threatens him on his way home with the policeman or some other bugaboo. Last summer while I was using the material with a charming group of American children, the English nurse of one of the little boys said to me, with a real desire to help me, "If John doesn't do as you wish, tell him he will have to take castor-oil."

I feel so strongly the necessity for a reform of this abuse that I would welcome a tract, addressed to nurses, that would in simple language set forth a contrary principle, that of expansion rather than repression.

As liberty means freeing the life force, so discipline founded on liberty must mean ordered activity. An individual is his own true master and therefore disciplined only when he can regulate his own conduct to follow some rule of life. This concept of discipline, as ordered activity founded on liberty, is so opposed to the conventional one that it takes time and thought to understand it aright and apply it properly; but it contains a great educational principle. While I was in Rome I visited several schools, not under the direct supervision of Dr. Montessori, where her material was

at hand for the children to use and where the teachers showed a superficial knowledge of the system, but where a lack of complete apprehension of this principle of discipline was bringing chaos rather than order; thus completely reversing the ideal set up. One teacher said to me, in perfectly good faith, "There is no discipline in the Montessori schools," and I was not surprised to see her room in disorder and the children dissipating their energies in aimless and superficial play.

If liberty means the freeing of the life force within each individual human being, discipline means its control under the special bonds and restrictions which the human life, helpless in its infancy and restricted by the rights of other human beings, must feel. If we wish to gain freedom in our chosen work as mechanic, as artist or as teacher, we must first gain control through repression of all useless or dangerous movements. A famous artist once summed up for me in a few suggestive sentences his life history. First as a child, the free spontaneous effort to express what he saw with no idea of the laws of art or of its limitations; then the years of patient submission to those laws and limitations

until he became master of his technique; then in his prime came the joy of perfect freedom as his hand, master of the brush, expressed almost automatically the creations of his artistic soul. It is that joy in life which comes from mastery of self, and therefore perfect freedom, that should come to each child. "Ye shall know the truth and the truth shall make you free."

Because of these bonds, Dr. Montessori tells us that the liberty of the child should have as its limit the collective interest; as its form what we universally consider good breeding. Therefore this principle of the free, spontaneous expression of the child's personality has as a controlling or necessary implication the opposite idea of inhibition. All acts useless, dangerous, or opposed to good breeding should be as vigorously repressed as all acts conducive to the child's freedom within these limits should be allowed. The child comes thus early to distinguish between right and wrong, good and evil; between the Kantian imperative, "I must," and the Mosaic restrictive, "Thou shalt not"; and it is consequently easy to implant in his childish mind that joyous realisation of duty as our own contri-

bution to life which Wordsworth gives us in his famous ode:

> "Serene will be our days and bright,
> And happy will our nature be,
> When love is an unerring guide
> And joy its own security."

A full realisation of discipline as preparation for completely ordered mental, physical and spiritual liberty involves a true understanding of the value of work as a factor in our development. Fundamentally, we are active. We come into this world with a fund of energy, greater or less, which is our inheritance. This energy shows itself in the baby in a mass of chaotic, unorganised activities together with a few instinctive and automatic actions necessary to life, such as breathing, sucking, crying and so on. The progress of the child is from this ill-regulated, unco-ordinated, unrestrained activity to the habits and ordered power of maturity. But a human being is always dynamic, not static; rest for him, therefore, means ordered movement, not cessation of activity.

> "Rest is not quitting this earthly career,
> Rest is the fitting of each to his sphere."

The true rest for our lungs is normal breathing; for our heart, the natural beating of its blood-pressure; and for our muscles, orderly action. Experiment has shown that there is less fatigue for a child in organised play than in restless, disorderly activity, provided always, that such organised play is the expression of his own spontaneous impulse.

Dr. Montessori in her belief in the multiplication of the energies of the child and in her theory that there is no fatigue in work where there is no strain or worry, is in accord with our own psychologists, James and Thorndike, who have expressed similar ideas.

The modern school, well equipped, with every opportunity in it for developing the organised yet spontaneous activity of the child, should rest and invigorate instead of fatiguing him, or making him nervous. For, in every such school, provision is made for that natural repetition of exercises for which the child instinctively feels the need, which we call "drill," and by means of which his individuality is set into well-ordered freedom. There is also provision for the slow execution of such exercises, for just as the child's scale of distance is so different from ours, so is his time-sense. He

should not be hurried as he does something with great care and deliberation for the first time, neither should we hasten to help him. When, therefore, parents announce their determination to keep their children at home and not send them to kindergartens or schools until the age of eight in order that they may attain a perfect physical condition, they show a lack of knowledge of the union between the physical and the mental sides of a child's nature and of the truth that there must be a wise provision for the mental life as well as the physical life that his brain may function properly to be the instrument of his expanding consciousness.

From the consideration of liberty as the free development of the life force, an activity that is free when it is disciplined and realises the laws and limitations of its nature and its environment, we turn to the third factor in this mastery and free expression of self: that is independence. True freedom means independence; we must then direct the first active manifestations of the child's liberty so that he may gain independence. At this point, at the risk of tiresome repetition, we must be reminded that this biological rather

than legal conception of liberty considers the child as a human being who in his infancy, unlike plants and animals, is absolutely dependent. John Fiske was the first to recognise the value of the long period of infancy in the human being in relation to his development, as it gives him opportunity to free himself from the bonds of those instinctive and reflex acts which hold the animal down, and to gain in their place new co-ordinations and habits, which gradually supplant the random expression of that nervous energy of life force so characteristic of the baby.

"As helpless as a weaned child" tenderly suggests that first period of infancy. But parents and nurses who love that very helplessness of little children and delight to serve it, prolong that period uselessly and wrongfully. "He who is served is limited in his independence." The child who does not act will not learn how. When we do for a child instead of helping him to do for himself we are thwarting a deep-rooted and valuable instinct. The child's cry, "I want to do it myself," is the natural expression of an activity which should be developed, not repressed. It is always easier to be a nurse

than an educator, but if we as parents or teachers yield to our own desire to serve rather than train we only hamper the child and hold him back on the road to liberty through independence and keep him from the joy of self mastery. This is a lesson especially necessary to be learned by an increasingly large class of parents whose children come to our schools hampered by their dependence on their nurses, and are unable to perform for themselves those simple personal acts which it should be perfectly natural for them to do. The beautiful application of this principle in the buttoning and lacing frames which are such a unique feature of the didactic material should be appreciated by parents, nurses and teachers alike.

This feeling of dependence, of pleasure in being served, so fostered now-a-days but really so foreign to the child's nature, creates in him, unconsciously at first, that false classification of work as menial and non-menial which is so opposed to a true democratic spirit. Our little aristocrats of the schoolroom, whose nurses, forgetting that we should be made free to serve, dress and undress them, lead them by the hand and

wait servilely on them, are growing up in a false idea of service and of work which is our heritage. Growth and independence involve that true discipline which comes through work. For as Montessori well says, "Discipline is a path not a fact, it is a means not an end," and the very beginning of it appears when the child, keenly interested in doing, sets himself to the accomplishment of a definite task. It is attained indirectly through the direction of the child's own spontaneous efforts; it needs for its perfection the repetition of a series of complete acts through work which he instinctively desires and toward which he naturally turns and by means of which, as he gains more and more power and freedom, he sets his personality in order and sees new possibilities of growth. I had an interesting illustration of this truth in my own class last summer. Nancy, a child of a little more than three, as an only child in a group of fond uncles, aunts and a grandmother, had become very dependent. When she first came to our play-house she was afraid to do anything as the other children did, to close her eyes, to use the material. But in a very few days the delights of freedom

and of a sense of power began to dawn in her childish mind. Naturally and without strain of any kind she tried her little powers, and grew more and more independent and disciplined through happy liberty in activity. An only child, the limitations of the collective rights had not come to her before, but she responded beautifully to the discipline which comes through group life.

CHAPTER III

SELF-DISCIPLINE THROUGH OBEDIENCE

"To obey it is not only necessary to wish to obey but to know how."

That Dr. Montessori's deepest message is a spiritual one, that her highest ideal for humanity is that of a being fully developed physically, mentally, morally, and spiritually through the conquest of liberty and the mastery of self must be evident, I believe, to anyone who studies her book fairly and sympathetically. But, like Browning, she believes flesh helps soul quite as much as soul helps flesh. Like him she propounds this test:

> "Thy body at its best,
> How far can that project thy soul
> on its lone way?"

Because as a physician she sees so clearly the laws of physical life and growth, because as a psychologist she knows the intimate connection between body, soul and spirit, she finds an element of moral training in

the very simplest and earliest exercises and makes no attempt to divorce it and set it above motor or sensory or intellectual activity. For this reason she has been misunderstood, and there are some hasty, thoughtless critics who have failed to see the spiritual side of the material game or activity. For this reason, therefore, it is proper for us in our preliminary study of her "controlling ideas" to add to our interpretation of her conception of liberty, discipline and independence a fuller exposition of her ideas of self-discipline through obedience and of her belief in the abolition of rewards and punishments as they are commonly understood.

Obedience has too long been thought of as the especial virtue of childhood, yet like the love of truth it is seldom found in very young children and we are only beginning to realise, as our knowledge of psychology increases, the reason why. True, there is an instinctive kind of obedience to be found in children, but in its higher form it is a complex thing to be arrived at through the development of our will as well as of our mental power. It contains two factors, the desire to do something, and the ability to perform

it. That Dr. Montessori's theory of education includes as an essential feature moral training will be seen later as we follow in detail her method for motor, sensory and intellectual development and see how in each case the will is trained both to activity and to inhibition. The child is not only having his senses refined, his power of discrimination and observation enlarged, but through his liberty of choice, through his conquest of freedom, he is led along the path that leads to real obedience. Parents and teachers too often diagnose as a spirit of naughtiness or willful disobedience that lack of power in a child to respond to a command which he manifests either because he does not understand it or because he is unable to execute it. Often too the child's undeveloped sense of time and space is inadequate for a proper response to the command "go at once," "obey instantly"; commands given before we are sure that the child knows exactly what is expected of him or that he has the will-power to perform it.

Dr. Montessori finds three periods in this development of intelligent obedience in a child. There is at first a subconscious period of what she calls spiritual disorder

when his mind is a blank, when he is what might be called psychologically deaf. This is the period in which deficient children linger and sometimes never grow out of because their minds are too undeveloped to understand and their wills too weak to respond. The second period is found in a child when the desire to obey has begun to develop, and the mental ability to understand and the motor power to execute the command is partially formed; but through lack of the discipline which comes through repetition and the control gained by inhibition, he may look as though he understood the command and would like to obey but can only occasionally and spasmodically succeed in doing so. In the third period he is able to respond at once, and as his sense of power grows he loves to prove it and is proud that he possesses it. We see an illustration of this fact in the way a baby gradually acquires some habit like that of grasping a ball. There is first a period of random, spasmodic movements crowned by accidental success; the second of occasional success bringing pleasure and desire; then the third of complete success. This ideal third stage in which desire and knowledge bal-

ance each other is very slowly reached, so what we often call willfulness is really a condition of undisciplined will.

One of the most valuable effects of the training received in the Montessori system of education comes from the regular, progressive development of the will through spontaneous choice, so that the true balance may be kept between desire and knowledge. Psychologists affirm more and more strongly that what we mean by will is the whole mind active; that is, a mind stimulated emotionally to desire, to know, and to do. If we can guide a child through these three periods from chaos to order, we need not be surprised at feats performed by him which seem to outsiders little short of marvellous.

Some of the greatest mistakes in education, I believe, have come from a lack of comprehension of what is involved in intelligent, as opposed to instinctive or imitative, obedience; such errors as have been shown, for example, in the demands made upon a child for collective or group work before a proper relation between him as an individual and his teacher has been brought about. Athletics afford us an illustration of this. The value of team work—of the

mass—in football or basket-ball, comes when the response of each member of the team is individually obedient to the call of the leader while each in turn is strengthened by the response of his neighbour. As Kipling illustrates, by one of his tales, the strength of the wolf is in the pack, and that of the pack, in each separate wolf. If we are to have each child benefit by group work, we must first secure his response as an individual, and must be sure that he is in such a state of development that he is able to respond to the social appeal. Natural rather than forced grouping is, therefore, more valuable. The extreme of individual teaching, found in the Montessori schools, and the approach to collective order through the individual appeal is, consequently, true to this analysis of the real nature of obedience. Another illustration from the collective game of silence by which all visitors to the schools are so impressed, will show more clearly what I mean. The great value in this game lies not only in its moral training in self-control through inhibition, but in the spiritual effect of the condition of isolation in which it places each child, so creating a completely sympathetic relation between

him and his teacher. This differentiates it from many devices now in use in our schools, such as calisthenic exercises, by means of which a teacher subdues a noisy class. This game does have such an unconscious influence and is so far a help to the teacher, but it is much more than that.

Perhaps the children are occupied in all sorts of ways in all parts of the room when the teacher will quietly go to the blackboard and write in large, clear script, "Silenzio," and then as quietly take her seat or stand behind the group. One of the older children who can read will be the first to note this word, and taking it as a personal command to himself, will go to the seat which habit has trained him to use in group exercises, when in collective order. In some occult way all catch the spirit of the moment and one by one the other children follow his example, each looking to the teacher for the personal appeal, while total silence, passing like a wave over the children, gradually succeeds the pleasant noise of well-ordered activity. The teacher sits, herself a model of absolute repose; some of the children shut their eyes, while others lean their heads on the tables, thus isolating

themselves; the room has been darkened, and you as an outsider realise that your ideal for silence has been imperfect, and that you would not have expected or waited for that which this teacher has gained with such apparent ease. Then, while the eyes are closed and the little bodies entirely relaxed, comes from the teacher the low whisper, "Velia," and a little child under three who is near you worms herself out of her chair without touching it or the table, so perfect is her inhibition, and tiptoes to the teacher's side with an expression of joy in successful effort upon her face. One by one the children rise to this call from out of the darkness, and respond with the same control over their bodies that you have envied in the baby Velia. You ask yourself at first, "Is this over-straining of nerves?" Then you realise that instead you have an example of perfect discipline; a command heard with delight and obeyed joyfully and exactly; a true-balance between desire and power through knowing how. Such a training which makes possible intelligent, individual response to the call of the leader differentiates the crowd from the mob, the disciplined army from the untrained mass.

I also saw in Rome an example of the old-fashioned, unpedagogical group or collective work. Fifty children were seated in rows on benches at desks to which they came and which they left with automatic precision at a sharp command from the teacher. On the desk in front of each child were little sticks of wood. As the teacher dictated the lesson in which the arrangement of the sticks was to simulate a window, each of the fifty children was expected to obey the orders. Soon on the twenty-five desks at which the fifty children sat, the sticks were seen in all sorts of positions, from those designed by the bright boy or girl who could understand and obey the order to that of the poor little creature who painfully and blindly imitated his comrade, or sat in despair with his useless slips of wood in front of him. On the faces of these children, I saw depicted, in the place of the joyful emotions seen on those of the other group, a whole gamut of feeling: pride, joy, despair, envy, anxiety, fatigue. Here, except in the case of a very few, was the nerve-strain that I had expected to find in the other group, because they were attempting a task too hard for them and were using up their nerve force in trying to

understand and follow the arbitrary commands of a teacher, instead of gladly responding with a sense of ability to group work for which they had previously been prepared as individuals.

Another valuable element in that mastery of self of which obedience is so important a factor is the child's relation to rewards or prizes and to punishments. Dr. Montessori believes that a child brought up in such an atmosphere of freedom through disciplined activity as I have attempted to portray, will find sufficient motive-force within himself in the expansion of his own power, and that anything extraneous, like a reward or a prize, is an insult to the expanding life-force within him. At first thought, one hesitates to accept this doctrine, feeling that in so doing we are expecting of the child a response to an appeal that he is not ready for, just as if we should give him an abstract idea of numbers before he has had its concrete expression. But we must clearly understand the distinction she makes between that sympathetic relationship established between the child and his parents or teacher, by means of caresses and words of praise and encouragement for what is well done,

and the formal bestowal of medals, stars, or other prizes. The first only stimulates his feeling of joy in accomplishment, the second puts another motive first, so that the child is trained not to find pleasure in the work or the doing of it, but in an outside reward. As Dr. Montessori's controlling idea is to liberate the spirit of the child, she believes there is on his part an unconscious response to true stimulus, and that the awakening soul within him needs only the spur of activity and the joy of successful effort.

As a physician and an anthropologist, she has been one of the leaders in educational pathology. Where many would find reason for punishment, she looks for mental or physical defects or differences. In her illuminating book, "Pedagogical Anthropology," she discusses fully the doctrine of punishment, and shows that she is in accord with the most advanced ideas. In her schools, the careful and frequent physical examination of the child takes note of all defects. Failing to find in an apparently willful and naughty child any physical reason for his conduct, she assists the process of growth in true obedience by either isolating the child or giving him that discipline

which comes from the consequence of his actions. If the child is isolated he is caressed and made much of as if he were ill and to be pitied because he is not able to respond as the other children do, and in some mysterious way the appeal to the soul within him is successful. But in the schools where the teachers are trained in the spirit of Montessori I saw very little need for other discipline than that coming from that inhibition of acts which I have already discussed. If the two-fold nature of true liberty, expression and inhibition, is kept in mind and the balance between them preserved, the necessity for punishment, so-called, will be avoided.

As to the doctrine of discipline through consequence, an illustration may be given from an experience in one of the schools last winter. In this school the children came from the families of the very poor, so hygienic precautions were very necessary. Here, as in other schools, the children are obliged to wear clean aprons which they must bring from home, so that the material used in common may be protected. That morning two little sisters came with clean hands and faces, but without their aprons.

Instead of sending them home in disgrace, the teacher, who had been trained under Montessori, told them that as the Montessori games could not be used by children unless they had aprons to keep them clean, they could only use the material belonging to themselves, such as pencils or drawing paper. They spent the morning with these, but it was a lesson they will never forget, and I believe the offence will never be repeated. In my own class last summer, I had a little boy who at first was inclined to abuse the material by knocking it roughly about. When I told him that this showed me he was too much of a baby to use it properly, and that I must find something he could use, he reformed at once. So the appeal is always to the growing soul within the child as the motive is joy in success and pleasure in activity.

This survey of some of the underlying principles of Dr. Montessori's system of education would be incomplete without a brief reference to those ideals which they embody which we might call spiritual. To Dr. Montessori's deeply religious nature, all training which is true is training in righteousness, and no child can possess that real

liberty of spirit which she desires for him unless his spiritual as well as physical and mental nature is developed through untrammelled freedom. If, as she believes, a child is religious by nature, the love of goodness, as well as the love of knowledge, is instinctive in the child, and needs only proper culture in order that it may grow into life habits. A complete education, then, is the perfecting of the child's whole nature, and the conscious stimulation of his life force. It is in this way that a teacher may exercise her highest function: "To persuade the harvest and bring on the deeper green."

CHAPTER IV

THE TWO-FOLD FUNCTION OF EDUCATION

"Our aim in education is two-fold—biological and social."

MANY definitions of education have been formulated from the time of Plato to the present day, but if we turn to modern psychology we shall find, I think, a guide to the true interpretation and clear expression of this word. Psychology calls itself the science of consciousness—that mysterious power within ourselves which we can realise but not define—and teaches us that the purpose of this consciousness is a double one, in that it should not only gain for us knowledge of the world outside of our personality which we call environment, but should help us, as well, to adjust and adapt ourselves to that environment, and also, when necessary, to modify it. In other words, it leads to knowledge and to the highest development of character through action. It also teaches us that our nervous system, as the instrument of consciousness, has a double function:

first, to bring to consciousness by means of the nerves of sensation and the centers in the brain the material for a greater and greater fullness of knowledge; second, to carry out by means of the motor centers and nerves the commands of that totality of consciousness which we call Will, which result in action or conduct. If we accept these statements, then we ought to define education as the method by which this two-fold function of consciousness is established through the full development of our consciousness and the perfecting of its instrument, the nervous system. Education is thus thought of as being on two planes—the higher in its relation to consciousness, and the lower in its relation to our nervous system. Any theory of education to be in accord with these psychological tenets must provide for the full development of each child on both of these planes, a material or lower and a spiritual or higher. On the lower plane is the consideration how we can perfect the nervous system—how best develop inherited impulses, instincts and reflexes into habits; how we can co-ordinate our motor life and how acquire the needed technique for a proper mastery of our envi-

ronment. On the higher plane lies the problem how to develop our consciousness through the enrichment first of our life of sensation, then of perception, apperception and conception, all of which give us knowledge and power of thought; and also the problem how to develop that totality of activity which we call the will and thus grow to the full stature of our possibilities as man made in the image of God. Such an ideal of education is never reached by humanity, for all systems of education have the head of gold but the feet of clay. Even so, I believe that if we consider Dr. Montessori's theories and the material embodying them on both the material and spiritual plane, we shall find great possibilities in it for education in its two-fold function, biological and social. The Montessori method by its training of the senses and of the power of observation develops the child along the lower plane first, that is biologically; while in its intellectual training in perception, conception and power of abstract thinking, it prepares a child as a social being first to understand and then to mould his environment. It is such power to adapt environment to suit the growing needs of civilisation that differentiates

highly developed man from the lower animal or the savage. Such a broad conception of education as I have outlined includes as the highest function of all that spiritual growth which is the result of the complete flowering of personality, and complete adaptation to environment.

In the study which follows we should keep in mind, then, the spiritual ideal which is the goal of true education as we trace step by step this method from its beginning on the lower or physical plane.

Dr. Montessori's first, though by no means only, concern as a physician, anthropologist, and psychologist is with the physical side of the child's life; and her years of experience in hospitals and asylums have fitted her to be our guide to a full knowledge of the laws of his growth. In America more than in Italy, perhaps, the field is ready for such teaching, owing to the researches of educational psychologists like Dewey and Thorndike and to experimental work such as is carried on in institutions of psycho-medical and psychic research and in schools for the feeble-minded such as Vineland. Tests have already been applied in many of our public schools in order to discover the backward

and the abnormal or defective child; but we are far from that ideal condition desired by Dr. Montessori, wherein the teacher, the physician and the parent shall combine to make a systematic, intelligent and scientific study of every child, normal or abnormal, proficient or deficient, week by week, month by month and year by year; at the same time keeping records which shall be the guide of each teacher in turn as the child passes from one to another in his progress in the schools. Let us hope the day will soon come when such observation and examination of each child as the Montessori system provides for will cause each to be measured by psychological and biological tests, so that his age will not be thought of according to the arbitrary date of his birth, but according to his real development, mentally and physically. Such a "school within the home" as I have described in Chapter I, with its unique co-operation of parent, teacher and physician, and with its careful, systematised measurements and records, affording unparalleled opportunities for child study, we have yet to see in this country; and until we have it, we cannot follow exactly the directions given in her book, but, as in other cases, we must

apply the principle of adaptation to our own conditions.

Because Dr. Montessori considers so carefully the physical nature of the child, she also provides for his nutrition. In the schools in Rome, inspired or directed by her, a special system of diet is followed, such as is described in the chapter on Children's Diet in her "Scientific Pedagogy." Here again it would be impossible and undesirable to follow this advice literally, but if we are true to the desire to make the spirit which animates her our own, we need not hesitate to adopt such modifications as are necessary.

Dr. Montessori's controlling principle of liberty for the child in the spontaneous manifestations of his activity, which is also a means of moral discipline as these manifestations become organised through work, must be borne in mind from the start as we study the so-called didactic material she has devised to assist this liberation of his life force. As her knowledge of medicine fits her to give especial care to the physical side of the child's life, so her sociological views aid her to secure a fitting environment for him; so this material is never, in a true Montessori school, placed in the hands of

the pupil until he has been fitted to his surroundings, and an environment has been carefully prepared for him according to his own laws of time and space, so different from those of maturity. We, therefore, find that in a "Children's House" everything is, or should be, on a scale proportionate to these laws. The hours are long so as to provide for the slow response to stimulus and the leisurely activity which is characteristic of the little child. While the teacher is guided in her suggestions by the passage of time, the child is not made conscious of it and is never hurried. The furnishings of the rooms are also true to the child's scale of dimensions. The tables are low, broad, light, so they can be carried about, yet firm and solid. The chairs are also low, comfortable and easy to move. The material is placed about the room in cases which are within the reach of childish fingers. The large windows are so near the floor that the children can look out freely. The washstands, lavatories and shelves or hooks for wearing apparel and towels are all so arranged that they can be used by each child without strain. Little squares of felt, rolled up and kept in corners of the room.

can be quickly shaken out and placed on the floor by any child. The blackboards are low, the chalk and erasers are all within reach. Plants and flowers are arranged about the room so that the children can take care of them. If there is a garden, it is easily accessible, and each child has his own bed to care for as he chooses, and animals to love and tend. The rest-room with its hammocks, easy chairs, picture-books and playthings, is to be freely used. On the wall of the schoolroom is usually found a large framed photograph of the royal children and a beautiful copy of the Madonna of the Chair. The floors of dark red Roman tiles are very effective and hygienic at the same time.

Such a house for children, fitted to their needs, belongs to them and is as it should be in their care. Therefore the first lessons are those which develop a sense of responsibility, a feeling of collective ownership, and a care for property. I arrived at a school in Rome one morning before the teacher or her assistant. The rooms were open and several of the children who were there early were busily engaged in wiping off the chairs, tables, window-ledges and

tops of shelves; watering the plants, and caring for the bird cages; and the entrance of the teacher caused no interruption, so absorbed were they in their work. This training in neatness, order and cleanliness is extended to the children themselves. The universal Roman custom of wearing aprons seems to me excellent from a hygienic standpoint, as they are brought clean from home, kept in the school-house and put on for the same reason that the nurse or doctor in a hospital puts on his gown, to protect the material. They add also to the neat, attractive appearance of the children. In most of the schools, the boys wear aprons of one colour and cut and the girls of another. The name of the child is usually in script on the front of the apron, and very often bows of ribbon of some particular colour fasten the apron at the shoulders. In one of the municipal schools I visited, the children all wore yellow bows on their white aprons. In another school the girls in one of the rooms had bows, blotting-paper for their desks and paper covers for their books all of the same dark, rich shade of blue.

The children love the feeling of absolute cleanliness. They are at once taught the

proper use of soap and water, and are made to realise how much keener the tactile sense is when their hands are clean, and so take pleasure in keeping them in good condition. The fineness of touch thus developed makes them sensitive to the least dust. One day the children of a certain school came back from their recess in the garden and took their places in their usual seats. One little girl thought she felt some dust, which was not visible to the eye, on her table top. So she rose quietly, went to the closet for a dust-cloth and without a word wiped off, not only her own table, but all the others.

It is only, therefore, after the class has become accustomed to collective order through the personal care each one gives to the room and himself, that a child is introduced to the didactic material. Dr. Montessori expects days of disorder and confusion in the school until within the soul of each child there arises a sense of the beauty of order and of cleanliness, and until each has come into close personal relation with his teacher. Dr. Montessori's statement that "a room is in good order when all the children move about usefully, intelli-

gently and voluntarily without committing any rough or rude act" seemed to me most fully illustrated by a school which at its opening in the fall was the despair of the teacher on account of its disorder, so that she finished each day in tears. But this teacher had in her own mind a clear conception of what true order meant, and patience and wisdom in establishing it through gradual training in repression as well as expression, until an ideal of order and of good as opposed to evil was made real to each child, and the desire and ability to gain it came to him.

I have endeavoured to point out how the Montessori Method, by its biological and psychological tests, its physical care of the child, its attention to sense training (especially at first of the tactile sense), its attempt to awaken the power of observation, may if properly understood and applied, educate the child along the biological or lower plane; and simultaneously by virtue of its didactic material develop in the child a sense of collective order and responsibility and thus fit him socially for an environment already thoughtfully adapted to his laws and needs; after which the way to his intellectual development (education along the higher plane) is

open. To all who can discern so much in it the Montessori system, in agreement with our definition in the beginning of the chapter, will justify itself as a system of education which makes for the all-round development of the child. It is my purpose in the two chapters immediately following, to give a detailed account of this motor and sensory education, and later on to explain still further its application along the higher or intellectual plane, which includes the spiritual.

CHAPTER V

PHYSICAL EDUCATION

"The aim of education is to develop the energies."

In the description in the previous chapter of the environment prepared for the child in a Montessori school, that he may begin his education under proper social conditions, allusion was made to some of the exercises in practical life which the children are given, such as taking care of themselves, of the room, and of plants and animals. These exercises may also be considered as the beginning of the child's motor education, which is more fully provided for by the Montessori system of gymnastics or muscular training. Her definition of such muscular education is a very broad one and she sees in it a three-fold purpose: first, to aid the normal development of the child's physiological movements, such as walking, breathing or talking; second, to assist his muscular co-ordination; and third, to inhibit useless, dangerous or improper movements, thus

relating gymnastics in its broadest sense to moral training and self-discipline. She would agree, I think, with G. Stanley Hall (Adolescence, Chapter III, p. 132) that: "For the young, motor education is cardinal and is now coming to due recognition, and for all, education is incomplete without a motor side. Skill, endurance and perseverance may almost be called muscular virtues; and fatigue, velleity, caprice, ennui, restlessness, lack of control and poise, muscular faults."

The first purpose, that of aiding the development physiologically, is gained chiefly by means of the gymnastic apparatus and other exercises which she has adapted to the peculiar structure of children. Her medical experiences have proved to her that the child develops anatomically very irregularly, and that his body or trunk (which contains the vital organs) grows much faster than his extremities and is therefore in his early years out of all proportion to them. After my attention was again directed to this fact in Rome, I studied with a new interest the faithful portrayal of the child's physique by the old masters, Raphael, Michael Angelo and Fra Lippo Lippi and understood as I never had before the short legs

and large bodies of the children in the many "Holy Families" to be seen in the galleries.

She also believes in giving the very young child every opportunity to indulge to the utmost his propensity to stretch himself, to kick, to walk on all fours, to throw himself prone on the ground, and in all the other ways by which he instinctively keeps his weight from off his legs and so prevents undue strain. Many of her exercises for little children are definitely planned to lessen the weight of the torso or trunk on the extremities. One is like the Swedish *böm* with parallel bars firmly affixed to upright poles on which the children can pass along the bars suspended by their hands. She has devised a swing with such a wide seat that the child's feet do not hang down and his legs are supported by it. This apparatus is swung near a board or wall, against which the child pushes his feet in order to keep the swing in motion, and so strengthens his ankles. They may, while still seated in these chairs, vary the exercise by playing with rubber balls hung on cords. In this way the arms and spinal column are exercised. She has also devised numerous exercises with rope ladders to assist the

child in gaining equilibrium and poise in kneeling, rising, walking and running; and others to increase his chest expansion. She realises that as the most primitive of the senses is that of touch, so the most primitive action of the hand is prehension or grasping, the forerunner of all its more delicate movements, and she regards the ladder, the swing and the *böm* valuable for exercises preparatory to training in sense perception through touch. Here again she is in full accord with modern psychology, which teaches us that the hand is second only to the brain as instrumental in the development of the higher consciousness of the human being, as contrasted with that of the lower animals. Other exercises which serve this first purpose, the development of physiological movements, are those of walking on a line, exercises for deep breathing, and those which teach proper articulation, enunciation and pronunciation.

Parents who really desire to assist this last-named development of speech should give up the fond and foolish notion that "baby talk," so called, is cunning and to be encouraged; and instead, should vigorously resist all temptation to enjoy the early de-

fects of children, such as lisping, substitution of one sound for another, and failure to pronounce at all certain sounds. They can, on the other hand, help instead of hinder the child's later progress by giving him those exercises which he needs to develop the muscles of the lips and tongue. In place of the Italian words for muscular training which are found on page 148 of "The Montessori Method," I suggest the following English equivalents, to be used in the same way: Papa—father—ta ta—zebra—stilly—rabbit. The Italian children are accustomed, of course, by the very nature of their language to much more careful enunciation of the consonant sounds than American children are, and there is more need for us to adopt exercises which will offset our own slipshod use of our vowel and consonant sounds. The exercises in careful and exact nomenclature, which are a part of the sense training, may, with profit, be begun by mothers as they teach their children the names of various objects. In America this training is too often neglected in the home and sometimes in the kindergarten, and left to the teachers in the primary grades, where it is often too late to correct bad habits of voice

placing (nasal or head tones), and of articulation which should not have been allowed to be formed. Our custom of teaching songs to groups of children in our kindergarten and schools is in some measure to blame for this tendency to careless enunciation, as the many amusing stories of childish perversions of familiar hymns and songs will prove.

The second purpose of motor education, to assist muscular co-ordination, is gained chiefly through the use of the wooden frames fitted with cloth of various kinds intended for practice in buttoning, lacing, hooking, snapping and tying of bow-knots, as well as by the more purely sensory exercises, such as the Big and Long Stairs, the Tower and the Solid Insets which have this secondary value also. Since my return from Italy, I have watched with new eyes our American children, and I firmly believe they need training in muscular co-ordination more than do Italian children. We must always keep in mind the fund of nervous energy which is the child's birthright. This native endowment I believe to be greater in the American child; but so far it has not been utilised because of a lack of training in co-ordina-

tion due to the fact that so much of his play has been aimless. Froebel, as we all know, suggested in his wonderful book, "Mother Play," many exercises for proper co-ordination of muscular activities, but they are much more limited in their scope than those of Dr. Montessori and therefore more barren of results.

The third purpose, that of inhibition of all useless, dangerous or improper movements is obtained in many ways. Montessori believes as firmly as did Froebel that the cure for wrong activity is not inaction but is right activity, and the formation of right habits to take the place of useless or wrong ones. The children are taught to walk quietly on the balls of their feet, and are given exercises for grace in walking, in bowing, shaking hands and in simple dance forms. All selfish use of the material is also inhibited, as they are not allowed to take games from each other, or to push, shove, or crowd one another. At their luncheon each child waits with hands folded until all are served. The game of silence where the children learn with delight wonderful lessons in self-control, the muscular training in co-ordination, provided for by all the ma-

terial, the ideal for discipline, all combine to give the child increasing power of both inhibition and co-ordination, the great secret of true discipline and obedience.

Since my return from Italy I have heard the statement often made that Dr. Montessori does not believe in play. Like many other criticisms this has arisen from a misapprehension, this time of her allusion to "foolish and degrading toys" (Montessori Method, p. 372) a phrase which has been wrested from its connection and misapplied. Dr. Montessori believes that a child is in earnest in his play and loves to give it meaning. She encourages free play therefore as a part of the child's motor training and suggests many of Froebel's games with songs, and approves of balls, kites, hoops, bean bags, games of tag or "Puss in the corner." All these are active, all develop the children physically and exercise their intelligence while they are at the same time expressing their spontaneous choice. She directs her sarcasm against such mechanical toys as are always to be found in our shops which afford no opportunity for the child to show his constructive ability.

Montessori also includes as a part of

gymnastics what we should call nature work. The out-door life of the children is encouraged by gardening—little gardens to be cultivated by the children and animals to be taken care of—and in all the activities connected with these out-of-door occupations, she sees very valuable exercises in poise, in co-ordination and in numerous other ways.

But nature study in its largest sense has to Dr. Montessori a social and a moral value even more than a physical one. She recognises in Itard's wonderful experience in gradually weaning the savage of the Aveyron from his absorption in wild nature and leading him to some measure of social life, a precious example to be applied to the education of normal children. Man is a social being and finds his highest completion not in isolation but in community life. But he is also a child of nature and must be prepared for society by a gradual transition from a life as nearly natural as possible to one in which the limits set by society are felt. She therefore urges a large measure of out-door life under the simplest conditions in connection with plants and animals, not only for its physical effect on children,

but for the social and moral training involved. She notes the following steps in progress in this direction: First, observation of life phenomena, which leads to interest in and care for plants and animals; this leads to forethought as the child realises their dependence on him, which is a step in his auto-education. This again develops the virtue of patience as he waits for the plants to grow from the seeds he has planted and of expectation which is a form of faith. In the next step there arises in the child a true love for nature which leads to a care of all life, an interest in all its manifestations, and a confidence which prevents causeless fear. Last of all, the life of the child corresponds to the natural progress of the human race.

Dr. Montessori makes a distinction between manual gymnastics, the physical side of nature work, and manual labor which makes a finished product; but she realises that this distinction is theoretical rather than practical and that manual training is necessary as a factor in education. But her experience in manual training as we understand it in America is very limited. We should, as in the case of children's diet, accept her principle of spontaneity and liberty

AN OUT-OF-DOORS CLASS, ITALY

in this as in other processes of education and apply it to our own well-developed system. She has adopted in her schools free work in clay, together with vase forms—which affords opportunity for the spontaneous expression of the child's personality—and constructive work with brick tiles, first of a wall and then of a complete house. Here again she finds a social and moral as well as a physical value through the muscular control gained in all these ways.

Physical training to Dr. Montessori embraces all the motor side of a child's development, whether physiological, muscular or inhibitive. It has been necessary to make a separate study of it just as we shall study sensory education in the following chapter; but there is no separation in the child's life, for physical, mental and moral training are a trinity in unity.

CHAPTER VI

SENSORY EDUCATION

"A game is a free activity ordered to a definite end."

In the theory of education set forth in Dr. Montessori's book, the education of the senses takes a very important place, because it is only by the perfecting of the sensory-motor-nervous system that the fully developed conscious life of the individual is gained, which is our ideal. We have discussed, in a separate chapter, the principles and methods of her system of muscular education, but we must never forget that the two processes, sensory and motor, are united in the human being, and education in them both goes on simultaneously. Education has long concerned itself with the motor side of our nature. "To learn by doing" is a familiar precept. But the sensory side, while not in any sense neglected, has not until now been scientifically studied, so that a full realisation of the possibilities

of sense education has been lacking. Montessori, however, in her theory of the value of sense training must not be classed with Pestalozzi, for she is, I think, in accor ' with those American psychologists who ' elieve the theory of formal discipline to b 'alse. Her purpose is to give each child a full sensory life, as early as possible, that his brain cells will develop and paths of association between them be formed. Higher powers of observation, conception and apperception come as the result of a rich sensory experience. Herbart taught us the value of apperception; that is, the recognition in the new of some element already perceived; but that sensation must be the foundation for perception, apperception, and conception, he would have admitted as freely as does Montessori. The Montessori method, in its appeal to all the senses and in practical devices for their training, is unexcelled, and by it new fields of delight are open to the child.

Modern psychology has not only distinguished more of our senses than we were formerly supposed to possess, but has studied them more closely and located them more exactly. For purposes of convenience

and in order that we may test Dr. Montessori's claim for her system that it affords complete sense training, I give here a list of the senses and of their location according to the latest authorities, with whom Dr. Montessori is in agreement:

Visual or sight—located in the eyes.
Audile or hearing—located in the ears.
Gustatory or taste—located in the tongue and palate.
Olfactory or smell—located in the nostrils.
Tactile or touch—located in the finger-tips (chiefly).
Thermic or heat—located in the skin.
Baric or weight—located in the tendons and muscles.
Stereognostic—fusion of tactile and muscular.
Chromatic—sense of colour (a division of visual).

Each sense organ is connected with its especial center in the brain or spinal cord by means of sensory nerves. The sensations reported by these nerves set up a reaction which affects the corresponding motor nerves and lead to muscular activity. At birth the child responds in an impulsive, reflex or automatic way to stimulation, and consciousness develops slowly with the needs

of the growing child. As sensation and motor action parallel each other, little by little the higher centers in the upper brain or cerebrum function, and better and better connection is made between them, so that gradually full consciousness with power of logical thinking succeeds to the simple reflexes of infancy. In order, then, that the brain cells may develop and paths of association between them be formed, each sense organ should receive full stimulation, and coordination of motor activity in its turn be encouraged. Parents and educators need to be familiar with this order of normal growth so that in the early years of a child's life they may provide ample opportunity for sense stimulus; and should expect little logical thought or power of generalisation until the higher centers begin to function and paths between them be formed. If at this period the laws of habit and attention are obeyed, the general as well as the specific effects of sense training will be obtained.

In the normal child the most primitive sense and the one earliest developed is that of touch; the others follow probably in this order: taste, smell (with which it fuses), sight, hearing, then the thermic, baric and

stereognostic senses. But the natural order of development is modified by our artificial civilisation, so that when a child comes to kindergarten or school his sense of sight is usually the one most highly developed. Dr. Montessori is in accord with recent thought when she lays great stress on the value of the sense of touch, and in her early work she began with its development, but experience has taught her that the appeal to the modern child must be through the sense of sight first, then through that of touch. In order, therefore, to take advantage of the visual sense training a child of three already has had, she has so arranged her sequence of exercises as to begin with vision, but her aim is to lead the child to depend less and less upon it and exercise more and more the other senses, especially that of touch.

Before we take up the study of the material for developing all the senses we must fix clearly in our minds some important principles. First, that it is training, not measurement of the sense, that is the ideal to be kept before us and therefore although much of the material may be similar to that used by scientists for purposes of measurement, in the hands of the educator (whether

teacher or parent), its function is to exercise and it must therefore divert and not weary the child, as it might if used for measurement. In the second place, there must be careful training and practice in the isolation of the senses as well as in their combination. The custom of blindfolding the child or accustoming him to look away from the material, in order to develop the sense of touch or of weight, is an illustration of the first; and the union of the stereognostic sense with that of sight and sound in learning to read and write is an example of the second. In the third place, we must remember that Dr. Montessori considers the material she has invented a necessary minimum only for education, and we may therefore feel free to elaborate and expand as conditions and experience dictate, provided always we keep clearly in mind the principles which should guide us. I found, by way of example, that a very helpful addition to the frames used in motor-education, as I shall show more in detail later, was one for braiding. I also elaborated the training in the chromatic sense furnished by the colour spools by the use of fresh, shaded flowers, like nasturtiums. I think the objection often

made to this material, that it is too formal, may be avoided in this way and that we may also develop its possibilities in connection with nature study. It is also to be remembered that the same material which when used by the teachers of the feeble-minded makes their education possible, can stimulate the auto-education of the normal child who uses it by himself. This fact is significant in relation to two valuable characteristics of this method: the opportunity it affords for observation of the child by the teacher or parent, combined with the liberty granted to the child in its use. This will be treated of more fully in the chapter on the Montessori Teacher, where we shall see in it the possible solution of the modern problem, how we may have at the same time a scientific and a sympathetic interest in the child, so necessary if we are to be successful in our vocation.

This principle of liberty for the child who at first uses the material by himself and is not corrected by the teacher but by the material, is a most important one and not easily understood or applied by the teacher trained in the usual kindergarten or elementary school methods who will be inclined

to teach instead of direct. This self-correction leads the child to concentrate his attention upon differences in dimensions, and to compare them, which is a most valuable exercise for the development of his sensory system as related to his conscious life. But there is no question as yet of teaching the formal knowledge of dimensions nor of making practical use of the material. All this comes later. This first period in the presentation of the material is in strong contrast to the use of the Froebelian material in the kindergarten, where the aim of the teacher from the first is to furnish knowledge. James, in his Psychology, makes a distinction between "acquaintance with" and "knowledge about" a thing, meaning by the first phrase sensation and the second perception. In the Montessori system the preliminary period, of sensation, is emphasised; and in the kindergarten the second, of perception. In this preliminary stage it is very important that the teacher does not interfere and equally so that the material should be such as to allow the child gradually to observe and rectify his mistakes. When the child performs the exercise perfectly without making any errors, he has outgrown it and

its only value is for occasional repetition for the sake of drill.

Neither is this first auto-education of the child to be confused with those concrete ideas of our environment which may be later gained by its means, nor with the careful training in the use of language which corresponds to the abstract idea. Rather should its fundamental purpose always be kept in mind, which is to increase the power to recognise differences as the material stimulates the child's attention and increases his power of observation.

This methodical yet spontaneous preliminary training of all the senses in turn as a preparation for further education by means of the "three periods" under the guidance of the teacher, is justified by the two-fold conception of education upon which so much stress has been laid, namely, biological and social. In this earliest stage it is with the biological purpose that we are chiefly, though not wholly, concerned—that is the natural growth of the child in accordance with the laws of his being, so that his nervous system as an instrument of his conscious life is perfected. To fit him for his environment and make him able to modify his environment is

an aim to be achieved after his senses have been trained.

Before a study of the material in detail is made it will be helpful, I think, to have before us for reference a list of it as it is manufactured in America by the "House of Childhood."

Eight Frames:
- Buttoning on red flannel.
- Buttoning on drill with tapes.
- Buttoning on leather.
- Lacing on cloth.
- Lacing on leather.
- Hooks and eyes.
- Snaps.
- Tying bow-knots.

Solid inset with ten cylinders of equal height varying in diameter.

Solid inset with ten cylinders of equal diameter varying in height.

Solid inset with ten cylinders varying in both height and diameter.

Tower—ten cubes varying in size.

The Broad Stair—ten prisms varying in height and thickness.

The Long Stair—ten rods varying in length.

Two Colour Boxes—containing 64 reels wound with silk of eight colours and eight shades of each colour.

Two boards for teaching rough and smooth:
Squares of wood and of sandpaper.
Alternate strips of wood and of sandpaper.
Two boxes containing fabrics—silk, velvet, woolen, cotton, etc.
Cabinet for wooden geometric insets with 36 insets in six drawers.
Box for metal insets with ten insets.
Thirty-six cards with geometric forms in solid blue colour.
Thirty-six cards with geometric forms in heavy blue line.
Thirty-six cards with geometric forms in light black line.
Two drawing tables.
Adjustable wooden frame to hold the insets.
Box with sandpaper alphabet.
Box with sandpaper numbers.
Two boxes with script alphabets.
Three sets of wooden tablets for Baric sense training.
Two Counting boxes with fifty sticks.
One Counting case containing sliding shelves and cards with numbers.
Six Sound boxes.

I give also the names of the 32 geometric figures used:

One square.
Five rectangles.
Four quadrilaterals.

Six circles.
Six triangles.
Six polygons from pentagon to decagon.
Four curved figures—ellipse, oval, three and four segments of arcs.

Together with the above are used the bricks and cubes of Froebel, balls of wool of different colours, discs similar to those used in games for counting, building blocks, Faber's coloured pencils and drawing paper, clay, corns, seeds and grains, and numerous toys. I have found it useful to add to the above paper-dolls of various kinds to be coloured by the children as a further exercise in perfecting the technique of writing.

Education on what may be called the lower plane—that is, for the purpose of developing the sensory and motor sides of the nervous system as the instrument of consciousness—begins for the very young child in the Montessori school when, attracted, let us say, by the sight of the large pink blocks which form the so-called tower, or one of the frames of red flannel with its row of white buttons, he selects one of these to play with. If it is the tower he will need no help at first, for the blocks as he uses them are a sufficient guide and will

themselves serve as a corrective for his mistakes. When the child, after playing a while with the pink cubes which form the tower, sees that the largest block should be at the bottom, the training of his power of attention has begun; and as he handles the blocks, learning gradually to place them one upon another in proper sequence, his muscular sense already awakened now begins to develop. Then if the teacher shows him how to pass his hand lightly from the bottom to the top of the stair that he may gain by sense of touch an idea of its successive steps, his tactile sense is trained and, combined with the visual, calls forth his power of discrimination.

The child is now ready for the "Three Periods of Séguin," so called, which Dr. Montessori has adapted to her material, and which he passes through as he learns its use and receives from it valuable sensory and motor training.

In the first period the teacher, let us imagine, takes the largest block of the tower with which the child has been playing and says: "This is the largest block, the largest," which word the child will probably repeat after her. Then, taking the lit-

tle cube that forms the apex, she will show that to him saying: "This is the smallest, the smallest," until that word also is repeated by the child. The two pieces which are in strong contrast as to size are then shown to the child together, the teacher again saying: "This is the largest—this is the smallest," the child repeating the words as he looks at the blocks. When he is ready for the next step the teacher says: "Give me the largest," or "Give me the smallest." If he fails to respond with the correct action, the teacher either leaves him for a little or goes back again to the first period in obedience to the principle that there must be no forcing of the child's attention, and in view of the fact that he has shown that he is not ready for this step. On the other hand, if he evinces pleasure in giving as requested first the largest and then the smallest block, giving proof that he has learned to discriminate thus far, he is ready for the third step. This is the most difficult for the child to take and he must not be hurried or coerced into it. The teacher picks up the largest block and asks: "What is this?" If the child is ready he will answer, "The largest"; but if he is not she should return to

the first and second periods again until he can answer readily and accurately. I have purposely used as an illustration the very simple material presented to the youngest children; but the same order is followed with all, the teacher choosing at first strong contrasts and gradually giving finer gradations, leading the child to finer and finer discriminations.

These "three periods," preceded by a period of spontaneous use of the material for the normal child, should be used by the teacher in presenting any of the material; but they must not follow each other too quickly, the response of the child being in every case the cue for the teacher. Take as another example the solid insets, as they are called, which, with the frames and the pink tower, are the usual choice of very little children, or are usually selected for them by the teacher. Here again the material is didactic in its quality of automatic correction of error. The teacher will give a child one of the sets of solid insets—let us suppose that one in which all of the cylinders are of the same diameter but graded as to height—first taking these out and placing them in disorder upon the table

or upon one of the pieces of carpet on the floor. The child with his instinctive love of putting things somewhere, will play perhaps a long time with this until he discovers that each piece must go into its own hole. Here again he begins with his visual sense, but the teacher soon shows him how to take hold of each piece by its little brass knob with one hand, while passing lightly the fingers of the other around its surface. By degrees the tactile sense reinforces the visual until it sometimes takes its place, and the child blindfolded or with eyes closed trusts entirely to it, repeating the exercise over and over again, thereby illustrating the principle of the value of free repetition as training in discipline and obedience.

The three periods are again followed in succession as the material is given first in strong contrasts and then in close gradation until the child learns to name the largest, the smallest, the highest, the lowest, and to use all the comparative terms which lie between. In all cases the principles of non-correction and of free attention are adhered to. The child, not strained in an effort to pay attention or to obey a command which he has not yet the ability or

desire to execute, or to remember before he has received a strong enough impression, will play without fatigue for a greater or shorter length of time according to his temperament and mental development, until he turns of his own accord to something else or responds to the suggestion for some collective instead of individual game.

Although opportunity is always found in a Montessori school for free play with blocks, toys and other material as well as for outdoor games, Dr. Montessori's definition of a game as a "free activity ordered to a definite end" and her belief in the serious attitude of children to what we call their play, causes her to place less emphasis on aimless play than we have done. She inculcates respect for and care of the material by prohibiting desultory use of it. The child is led to see that each game is really a problem to be solved, and to play the game in such a way as to find the correct solution.

Having shown by these two examples the method used in presenting the different games, let us now pass in review all of the material, arranging it in such groups as is indicated by its purpose. We must not, however, forget that while sometimes

the sensory and sometimes the motor development of the child is the primary or secondary purpose of a particular game, and while at one time his senses are isolated and at another fused, there can be no such formal separating of these two aims as has been necessary in our discussion of the subject in this and the preceding chapter.

I think one reason why there is some difficulty in understanding Dr. Montessori's system of education from merely reading the book if one has not studied it at first hand in her schools in Rome, is because she follows one order of presentation in the early part of the book (in her chapter on Sense Training) and another in a later chapter where she gives the sequence that experience has proved best. I shall, instead, group the games as I saw them used most frequently in the best schools in Rome. Such an arrangement, however, is in no sense arbitrary, and I believe that our experiences with American children may cause us to make changes. Our children have so much initiative and such ability to find a practical use for the games that such modifications as will fit these traits will be necessary. In the class I had last summer, I made

little use of the boards with strips of sandpaper for the rough and smooth exercise, as I found the same training in discrimination could be gained by the children more naturally and enjoyably with other games.

The first group of exercises chosen by very young children is usually that of the eight frames for buttoning, lacing, hooking, tying of bow-knots, and so on, which are called "Exercises in Practical Life" because they help the child to become independent as he learns to dress and undress himself As he plays with the various frames and learns how to button, lace, hook and tie bow-knots, his muscles become co-ordinated, and his sense of touch is refined. So these exercises are valuable, not only for motor education, as we saw in Chapter V, but for refining the tactile sense, which, combined with the visual, is so important in the child's development. With these exercises in practical life belong drill in habits of cleanliness, and therefore the child is shown how to wash his hands and face with warm water and soap. He quickly learns to love the delicacy of touch gained in this way, and to realise the sensitiveness of the fleshy

part of the finger-tips, where the sense of touch is chiefly located. This is a good time for him to choose the boxes of fabrics, by means of which he will quickly recognise differences between the feeling of silks, whether heavy or light; linen and cotton, both heavy and fine; velvet, woolen and leather. In one school I visited, the children showed a wonderful exactness in recognising these fabrics while blindfolded, and in matching with their eyes open different materials of the same shade, such as velvet or silk. The Directress of this school told me that many of the little girls now in her school would, when they grew up, become milliners or dressmakers; so this particular sense-training had its vocational features. These same little children were already helping their mothers to shop by guiding them in their choice of fabrics and colours.

The transition from training the tactile sense by means of these fabrics to educating the chromatic or colour sense is made with the two boxes of coloured silks wound on little reels, which attract all the children greatly. This game appeals to many childish instincts: the love of colour, of putting things in place, of invention. and by means

of it the finest discriminations of shade and colour are gained. Following the general rules of strong contrasts and of simplicity, only two colours, red and blue, for instance, are given to a child at first. Using two sets of each colour he matches one with another and gradually, as he plays with the eight shades of each colour, learns to place them correctly in gradation from the darkest to the lightest. After this preliminary play, he is ready for the first of the three periods, when the teacher will tell him simply the names of the colours, which are the darkest shade, the lightest, and so on. Many times while watching the children play with these reels of colour, I was corrected by little children of four or five years of age, whose ability to distinguish infinitesimal differences of shades was marvellous. In this game the memory is also strengthened as the child, while putting away the reels, each in the proper compartment of its box and in the true sequence of shade, remembers the right color as he takes it from the table or floor to the box. The habit of orderliness formed through this training in putting away each game in its proper position on the shelves, is one of the ways by which

the Montessori ideal of discipline is obtained. The training of the chromatic sense by means of the fabrics and reels of silk, may be indefinitely extended as the child's own power of observation increases and he begins to notice the different materials and colours by which he is surrounded at home and in school. But we must heed the warning not to furnish the child with information and not to force his powers of observation or of generalisation. When these powers come naturally to the child they are his own possession, and make a much stronger impression. I saw an illustration of this point last winter, when, watching a little child making a picture of a tree with his coloured pencils, I saw his growth in self-directed power of observation. The first day he drew a tree very crudely, using only the red pencil, but was not corrected by the teacher. A day or two later he used the green pencil for the leaves, and still later, discarded the red entirely and used brown for the trunk and branches. This also illustrated the Herbartian idea of growth in apperception.

The chromatic sense is also developed by the practice in drawing and filling in of

geometric designs with coloured pencils, which I shall describe later in its relation to writing. Here the primary aim is to perfect the technique of writing, but the secondary aim, to refine the colour sense, is also aided. The child's first choice of colour is often crude and harsh, but the change to choice of harmonious and soft shades is most interesting. All these drawings are marked with the pupil's name and kept by the teacher, and afford good opportunity for testing his progress. I looked over dozens of such papers and saw the early attempts of children who were by this time making beautiful and very delicate combinations of colour on their designs.

The thermic sense can, I believe, be developed more accurately by the use of little bags of sand heated to varying degrees of temperature than by the bottles of water heated to various degrees, or by the use of cold, tepid or hot water. The Directress in Rome who suggested the use of these bags of sand, gave as a reason for preferring them, the fear of confusion in sense-training that would arise from using the water.

The development of the baric sense, or

that of weight, is gained by the use of sets of wooden tablets all of the same shape and size. They are made, however, of three kinds of wood: wisteria, walnut and pine, which differ slightly in weight. This is another game the children delight to play blindfolded, and they show marvellous dexterity in detecting immediately the slight degrees of difference in weight in the various kinds. A child will stand or sit with these little tablets mixed together in front of him, and rapidly weighing each piece in his tiny hand, place it without a mistake in its proper pile.

The cubes and bricks of Froebel are used in much the same way to develop the stereognostic sense of feeling, which is a fusion of the tactile and muscular senses. The purpose of the education of this sense is to lead to the recognition of objects through feeling them, and all the material helps develop it to a greater or less degree, especially when the sense is isolated. It is also helpful in leading to a rapidity of judgment through comparison of various objects, such as coins, different grains—rice, wheat, or millet—and other small objects.

I found the sense of hearing exercised by

means of the game of "silence" and by use of boxes containing sand, gravel, pebbles and stones, which make a gradation of sounds. For the training in musical tones, the piano is used; also a series of bells graded to the scale, and other musical instruments.

The senses of taste and smell are so often fused, and the olfactory sense develops so late that the training in these senses has not been very satisfactory. One Directress I talked with, however, feels strongly the necessity for educating more accurately both senses of taste and smell as a preparation for useful lives. She had experimented for developing the sense of taste with salt, sugar, vinegar and quinine, beginning with a strong solution of each and diminishing it to a very weak one, and for that of smell with the odours of different flowers. She believed we should train for a union rather than a fusion of these senses. For example, she thought it possible to smell salt as well as taste it.

I have left for final discussion a description of the exercises for sharpening the sense of vision, and for the training of that sense combined with the tactile and muscular senses, because of their impor-

tance in the intellectual or higher education of the child. As I have previously stated, the child at the age of three has had his sense of vision more highly developed than his other senses. What he now needs is practice in recognition of differences in dimensions. For this purpose Dr. Montessori has devised some very important material, which she calls the Solid Insets, the Tower, the Big Stair, and the Long Stair. The Solid Insets are three in number, each containing ten wooden cylinders, varying in height, or in diameter, or in both. The child plays with these by himself at first, as in the other games, and then learns with the teacher's help the different dimensions and their proper nomenclature: highest, lowest; thickest, thinnest; largest, smallest; and all the intermediate grades and terms. There is an opportunity for group work here as three children often play with these cylinders together. The sense of touch is also perfected by means of these insets, as the child passes his fingers first around the cylinder, then around the corresponding hole.

The three large sets of blocks just alluded to, called the Tower, the Big Stair and the

Long Stair, appeal to children and give opportunity for this visual training in dimensions, and for the education of the tactile and muscular senses. The didactic nature of this part of the material is not so great and the control is not so sure as with the solid insets. But in these games the eye easily recognises a mistake, and the teacher assists the child to detect errors by showing him how to pass his hand lightly up and down the steps of the Tower and Big Stair, or along the sides of the Long Stair. The Long Stair proves its value later, when, chiefly by its help, the child learns to count and begins the study of the metric and decimal systems.

All of these games help to discipline the attention and the memory as the child carries the material to or from the shelves to table or floor and remembers the order in which it should be placed and later put away. They also afford a useful gymnastic exercise in poise as the child learns to carry, for instance, the tower, without dropping even the smallest piece.

The thirty-two geometric insets of wood fitted into little wooden squares and arranged in six drawers in a wooden case, are

perhaps the most popular of any of the material with all but the youngest children, and the most useful in their variety of application. In the preliminary stages, the child is given a tray with several of these squares into which he learns gradually to place the proper inset. Here, again, the material controls the error, as only the right piece will fit into the right square. The child's sense of touch is developed as he takes each inset by its little button, and passes his finger lightly around it and then around the corresponding opening in the wooden square. At first contrasting forms, such as the square, the circle and the triangle, are placed on one tray, later analogous forms, such as the oval and ellipse, or rectangles of various kinds are given. The three periods are then followed as in other cases until the child learns recognition of the form, can select it, and finally name it. But usually only a few of the more simple names are taught, unless the child shows a desire to learn them all. I watched one day, a little boy of five who fitted into their places and named quickly and accurately most of the forms. It is very important to remember that these insets are not

for the purpose of geometric analysis of form which is to be carefully avoided by the teacher, but for recognition of form through the association of the visual with the muscular and tactile senses. In this way a muscular memory is acquired which will later be of the greatest importance as the child learns to write. With these geometric insets are used the three series of cards which have the same forms in solid colour, and in heavy and light line. The child takes first a group of the wooden forms, and with them the cards with the same figure in solid blue. His eye guides him to place the wooden figure upon the corresponding card, and his habit of touching is by this time so well established that he will follow the contour with his finger. He is then given the cards that have these same forms in heavy blue outline, and lastly those which have the form outlined in black. He now places the wooden geometric insets in a row and underneath each the three cards; first the solid blue, then the heavy blue outline which represents the path his finger makes in touching the contour of each form, and finally the thin black outline, which is similar to the line his pencil,

or chalk, or pen will make in design and in writing.

With this series of cards he is passing from the concrete to the abstract; from the solid wooden form to the line which represents it on the paper. He is thus prepared for the art of writing, when he will use abstract symbols which he has learned through the use of the sandpaper and script alphabets.

It will be better, perhaps, to leave for another chapter any explanation of the use of the material in its further purpose to assist the development of the higher or conscious life of the child; yet we must never forget either the unity and continuity of the method or the unity and continuity of the developing mind. We talk of motor, of sensory, of ideo-education in the same way that we talk of the different powers of consciousness—of sensation, perception, feeling, thinking, willing—because our point of view changes from one to another as our emphasis varies. In reality, however, there can be no such distinct or arbitrary division either in education or in the mental life of the human being who is the object of that education. In this and the previous chap-

ters we have had in mind chiefly sensory and motor education in its biological aspect as a means of increasing the power and efficiency of the nervous system; in the coming chapter we shall place the emphasis on that higher form of education which prepares the child as a social being for his environment, and for intercourse with his fellows.

CHAPTER VII

FROM SENSATIONS TO IDEAS

"The greatest triumph of our education should be to bring about the spontaneous progress of the child."

If education concerned itself only or chiefly with its lower function, that of perfecting the sensory life of the child, it would not rise above the level of the training which is often given to animals; and its subject, the child, would not advance far beyond an animal's degree of intelligence. Many animals have certain senses even more keenly developed than those of any human being, and possess senses—as that of direction—that we lack; and we all know that races uneducated in the true sense of the word may have a high degree of sense education. If too great reliance is placed on sense training as an end in itself rather than as a means, or if its purpose to increase the higher powers of the mind is forgotten, just as great an injustice is done as in the days prior to Pestalozzi, when sense or motor training was neglected for what

was considered purely intellectual education. No system of education, however, can be made on the compartment plan; and as we have already noticed the fusion of the motor and sensory training in the early use of the didactic material, so we must keep in mind the fact that the child's training in sense perception begins as soon as his consciousness is sufficiently developed for him to have knowledge of things rather than of qualities.

Professor James in a characteristically apt expression calls the earliest state of the baby's mind "one big booming buzz of confusion." It has a feeling of warmth as it cuddles close to its mother's side, of satisfaction as it is nourished at her breast, of hunger or of pain if it is neglected; but all is at first most indefinite. Later, as memory develops, constant repetition of sense impressions as they are remembered build up perceptions of things so that it is almost impossible for us in later life to have a pure sensation. Years ago, after three days of uninterrupted travel across our continent, I left the train in the light of a western sunrise and was driven ten miles across the limitless rolling prairie to

a frontier army post. I still remember most vividly the pure sensations I had that morning of light, of colour, of vast space; but though I have since visited the same place more than once, I can never catch that first "fine careless rapture," for memory plays its part, and I perceive rather than feel. The baby's states of consciousness on the contrary are composed of pure sensations and it is only through this door of sense that the child gains access to the higher state of perception. So, although in the early stages of the child's education the training of the senses is of prime importance, and the greatest emphasis is placed on the use of the Montessori material for that purpose, the teacher must always keep before her the next step, which is to lead the child from sensations to ideas, from the concrete to the abstract, and on to association and generalisation.

Just as she has often isolated the senses in order that the child's attention might be given to a single sense impression, so now she must isolate his attention in order that he may get definite perceptions by limiting his field of consciousness. If we analyse our states of consciousness we find

in them a definite sharp point called the focus of our attention which is centered on the thing to which we are at the moment attending, and the margin of varying degrees of clearness where many sensations may be received or automatic habitual actions set in motion which we may not at the moment be aware of. It should be the aim of education so to train attention that the child will get clear, sharp impressions which later he will be able to recall and associate with others.

The auto-education of the child is interrupted by the teacher only that she may aid this clearness of impression, and her art, as we shall indicate more fully later, lies in the amount and purpose of that intervention which her careful study of the individual child shows him especially to need. Her greatest assistance will at first lie in the direction of providing him with a proper vocabulary introduced by means of the three periods. The child's native, instinctive curiosity is satisfied when he is given simply and clearly the name of the special object that is the subject of his attention, and through this association of name with object and from the muscular or visual memory gained as he handles or looks at

it his perception is made more sharp. By degrees she will use instead of the concrete name of the specific object or of its quality, as warm, long, broad, the abstract terms warmth, length, or breadth. The second step tests the child's power of attention as well as of perception as she asks "Which is red?" (or "smooth" or "cold") and the third provokes the motor response when she asks "What is this?" and is answered "Red" (or "smooth" or "cold").

The power of observation and ability to combine various perceptions which lead to association and generalisation of ideas vary greatly with the individual and must not be forced. Proper sense training should lead to observation, which may be stimulated in the way noted above, but it is better to leave the child free to make his own observations than to give him information which may satisfy him for the moment but limit his self-development. It is better, for example, to educate the chromatic sense than to give a definite lesson on colour. It is better to give the child abundant exercises in design and gradually develop his power of observation as well as his colour sense than to tell him just what to draw. Our

aim, as Dr. Montessori notes, is to aid the spontaneous development of the child's whole personality rather than to give him information. Temperamental differences in the children call for varieties of such aid; the principle to be constantly enforced is to give as little aid as possible.

The same material is used as the child passes from sensory training to training in perception; the only difference lies in the point of view, the emphasis, and in the method for developing the attention and power of association through relating the child to his environment. Much of this particular training is done with groups of children who use collectively the boxes of fabrics, of colour, of geometric insets, or the various stairs. Often one of the children asks to be blindfolded and will then take, for example, the fabrics, and as he passes rapidly over them, touching them lightly with the tips of his fingers will call out: "Heavy silk" — "Light silk" — "Coarse woolen" — "Fine cotton"; the other children watching meanwhile with eager interest. Sometimes the teacher or one of the children will slyly add to the collection some other article to see if he can tell what it is. At another

time a child, also blindfolded, will stand at a table with the wooden tablets which have already been used to develop his baric sense, and taking two at a time, one in each hand, will place all the heavy tablets in one pile at his right and the lighter in another at his left. The articles used to perfect the stereognostic sense, such as coins, seeds, and so on, are also great favourites with the children, who gain by means of their use wonderful power of discrimination. I have dwelt on the importance of tactile and stereognostic sense training and have already alluded to the hand as a factor in human evolution, but its higher value in our perceptual life must be brought out. As Professor MacDougall shows in his monograph,[1] the hand is the servant of the brain without whose wonderful help in interpreting the world of space in which we live, help given also by the senses of sight and hearing, we could have no real perception of the world. The hand of the surgeon or the artist has a perceptive quality which we all recognise and which should

[1] *The Significance of the Human Hand in the Evolution of Mind*, by Robert MacDougall, Am. Journal of Psychology, April, 1905, Vol. XVI, pp. 232–242.

serve as an ideal for emulation in education. When I saw the children in Rome playing in the way I have just described, I felt as if they could see with their hands.

Those exercises which are used for intensifying the sense of vision may be used in a similar way for practice in an exact use of language and for gaining clear ideas as to dimensions, for which purpose the Solid Insets, the Tower and the Big and Long Stair are all helpful. The application of these ideas to the child's environment may be made very easily as he compares his own height with that of other children; notes the differences in size and shape of the various pieces of furniture; and if, in his care of the room, especially if lunch is served, he is taught to use with accuracy many terms such as corners, edges, top, bottom, sides, square and so on. The great diversity of forms in the box of geometric insets appeals more or less to different children as their sense of form or of colour is stronger. I was interested last summer in noticing individual peculiarities and predilections; one child would be attracted by a variety of analogous forms, the names of which he would be

eager to learn; another would pass by all but a few strongly contrasted ones, such as a square, circle, or triangle. Dr. Montessori believes that it is better to give these forms to the child in the plane at first for visual perception, as they are less complex and also most frequently met with in his surroundings; while the solid forms are presented to him later for training his manual perception.

Much of the child's time in a Montessori school is given up to design, either free or in forms outlined by the teacher. The free design allows the child opportunity to express and to create as he chooses and is of great value to the teacher as a guide to the child's period of development and to his native interests and capacity. All the drawings are preserved, with the date, the child's name, and what he tried to picture, noted on each. A remarkable gain in intelligence and keen perception is often shown by these sets of papers.

Dr. Montessori agrees with all kindergarten teachers in the value she places upon free work in clay as well as with pencil or crayon, not only for the child as it serves to increase his power of observation and aids

his muscular co-ordination and self-repression, but also as a help to the teacher in the revelation of his personality. So by means of a great number of games spontaneously chosen by the child, who is aided as little as possible by the teacher, he is led from sense training to perception and through observation of his surroundings to generalisation. This is a direct preparation for the highest process of all, that of conception or thinking proper.

Just as perception is the result of the remembrance of many combined sensations, so conception is generalisation from the experiences of many perceptions. A child has a number of different sensations, either separate or combined, of colour, form, and so forth, before he can have the perception of a horse or a dog, but he must have many opportunities to perceive horses or dogs before he will reach the concept, horse or dog—which is a generalisation. Such concepts he must have in order to reason, for reasoning is based on comparison of concepts from which by means of analysis and selection one comes to form various judgments about them. Without language which gives the symbols for concepts we

could have no rational expression of thought and therefore command of language, both written and spoken, must be the goal to be attained by the child. The next chapter will discuss Dr. Montessori's principles and methods of teaching reading, writing and arithmetic, three most important elements in the higher life of consciousness.

CHAPTER VIII

"THE THREE R'S" IN A NEW FORM

"A great deal of time and intellectual force are lost in this world because the false seems great and the truth so small."

No part of Dr. Montessori's book, no report of visitors to Rome, has called out so much interested discussion as the accounts of her method of teaching writing, number, and reading—to name these subjects in the order in which they usually appeal to a child in the Montessori schools. Here is something tangible, concrete; here results are definite; here a clear-cut comparison may be made with other systems. The "Founder" of this method deprecates the undue emphasis which is often given to this phase of it. She fears that it may be wrested from its place in the system, the unity of which will thereby be destroyed. It is necessary for us, however, to make a careful study not only of the method by which the child gains power to unlock the triple gate of knowledge, but of the psy-

chological principles on which the method is based and by which it is justified.

Attention has already been called to the fundamental relation between our nervous system and our mental life (which may be expressed most simply in the diagram of an arc, thus:

A, in-coming sensory current; B, out-going motor current) and to the fact that sensation always results in action, even when the action is inhibited before being expressed outwardly. The earliest life of a child consists, as was stated in Chapter VI, of very simple reflexes in which the spinal cord only is involved, the origin and control of these acts emanating therefrom. Next the cerebellum or lower brain receives a sensory stimulus and sends out a motor current to the large muscles. Not long after birth the higher brain or cerebrum begins to receive, in its visual, auditory, gustatory or olfactory centers, currents which pass along the nerves, connecting it with the organs of sight, hearing, taste, and

smell. Still later the rich sensory life registered in the brain sets up associations, and our first simple arc diagram must be modified to suggest the complicated reaction of stimuli: in-coming nerve currents to sensory centers, currents between centers, then out-going nerve currents to muscles. Now if we bear in mind the special quality of the nervous system, plasticity, and remember that every in-coming and connecting current makes an impression and that these impressions are stored up in the brain as memories, we shall realise the effect of the combination of impressions from the different sense organs that reinforce and supplement each other in the brain centers, and we shall then comprehend the principle of multiple stimuli.

In the process of learning to write a word as carried out in Montessori schools, the child *sees* the word, *hears* the sounds which compose it, *touches* the sandpaper letters which form its symbols and by the mutual reinforcement of all these stimuli, his mental image both sensory and motor is clarified, so that when he feels the impulse to write the word, he needs no copy. In-coming nerve currents carry the effect of a stimu-

lus from all of these sense organs to the brain centers, and out-going ones set up the motor response of the spoken or written word. Such an interweaving of stimuli establishes paths of association so that a stimulus from one sense organ, vision, will excite the nerve centers of hearing or touch as well. With this psychological framework as a starting-point, let us now trace the actual steps in the child's advance towards intellectual life.

In the previous chapter we followed the child's progression from sensations to ideas, from concrete ideas to abstract generalisation, from perception to observation. This progress in the child's inner mental life is so gradual, so natural and unforced that it is like any growth in nature, difficult to follow step by step. The spring comes—the sap rises in the trees, the branches that have been bare are bright with the tender green of young foliage—but who has marked the change from one day to another? "Blue ran the flash across—violets are born." So the awakening of the higher conscious life comes without observation, and no one can name the day or hour of its appearance or the exact stages of its growth.

There is no arbitrary separation of the factors in the child's growth nor is he aware of any differing point of view. The material, as it has excited his curiosity, interest or attention and stimulated his activities, has been used in a more and more intelligent way. With and without the help of the teacher, his muscles have become co-ordinated, his attention trained, his sense perception refined, his power of discrimination increased. The instrument of consciousness, the nervous system, has thus been perfected while at the same time consciousness itself by the aid of the sensory-motor-circuit has been unfolding and deepening. Now the hand, the most delicate tool of all, can perform its part and give a power to communicate in a new language—and the child "breaks into writing!" Let us analyse—as the child never does—the process which leads to this result, and see how the material is used in that process.

The process is complex; the elements of which it is composed are fused in reality, but must be separated in order to be understood. Let us take the motor side first and see how the child gains the necessary skill

in guiding pencil, crayon, or pen so that the action becomes almost automatic. Among the materials enumerated in Chapter VI, is a case containing ten metal squares with insets of varying geometric forms. After the child has used the wooden insets, and has learned to recognise the forms and place them correctly in their proper squares, he is given similar forms in the metal insets together with drawing paper and coloured pencils. He first passes his fingers lightly around the inside edge of the metal square, then traces the same with his pencil on the paper, then he fits the inset to the outline which he has made and draws with a pencil of another colour a line around the outer edge of that. He thus gets the idea of the form and of the edge of the form. He will then fill up the outlined form in any colour he chooses. At first his result will be most imperfect; he has little or no control over the pencil, little idea of design. But if the teacher suggests the boundary within which the child should work and gives him plenty of material and time, the results will astonish her. Some day she will see the outline filled in with light, even, parallel strokes of the pencil in most harmonious shades.

The child without knowing it has gained the necessary control of hand and tool to make writing an easy and accomplished fact. During this period his tactile sense has also been developed by the use first of the rough and smooth boards, then of the sandpaper letters, while by passing his fingers lightly over and over these letters his muscular memory has been trained. At the same time he has visualised the letters by means of the script alphabet, and through hearing them sounded has gained also an auditory impression of them. By this three-fold association of motor, visual, and auditory stimuli, his mental image of the graphic symbol has become perfected. Now he is ready to combine sounds into words and at the same time make the words thus learned with the script alphabet. At some happy moment he will realize his ability to write the word with pencil or crayon on paper or blackboard instead of with the script alphabet and he will delight in exercising this new gift. Very likely he will do little else for several days and will gain rapidly in ease and accuracy.

I watched one morning in Rome a little boy take the final step which brought him

to the new art of writing. For some time his control over the tools for writing had been very good. He showed his familiarity with the sounds of the letters as he touched them by naming them correctly. He had also combined various letters into words by the help of the script alphabet. That morning he formed the word "mano" (hand) on the floor with the script alphabet. Then he ran to the board, took a piece of chalk and wrote the word very legibly and in good style. Before this he had traced the letters so often with his fingers that he knew their sounds and had recognised them by sight. Now he had control of the pen, a visual image and a motor response with which to respond to any stimulus. After this he wrote in the same way several other words that he had learned. The next step was to put two words together, "la mano" (the hand) and then three or four to make a complete thought. From that day his progress was very rapid. Another morning as I entered the Convent school in Via Giusti, a group of children ran up to me to wish me "good morning" with their gentle courtesy, and one of them, a little girl, lingered to ask my name. I told her

"Stevens," pronouncing the vowels in the Italian manner, but that my first name was the same as that of the Queen whom they all love. In a trice she had taken the box of script letters and with them had made on the green felting on the floor the words, "Welcome to Signora Elena Steven*si*." The teacher in passing made no correction but said with emphasis "Stevens—Stev-*ens*." The child listened and quick as a flash took away the *i* at the end of the name. Then she went to the blackboard where she wrote the same sentence with a crayon, forming her letters very beautifully, but erasing several until the form pleased her. The combination of courtesy, grace and skill in this little five-year-old girl was very typical of a Montessori child. This illustration also shows the power gained through this method to cope with unfamiliar consonant endings in a foreign tongue. Why cannot our American children conquer the difficulties of our unphonetic language in the same way?

The effect of previous training in drawing and of the motor, visual, and tactile memory of the words which these children have acquired is to give them an inner vision of

perfection which is astounding. I watched many children write, always with surprise at the power they showed to reproduce so perfectly the ideal, and at their power of self-correction; for having a clear mental image of what they wished to write, they were content to erase time after time until the result satisfied their standards.

In a sense this process of learning to write has involved a similar one of learning to read, but as yet it is not reading to interpret logical thought but for simple expression and nomenclature. This seems to me true to the order of the child's development in which the senses and muscles must be trained before consciousness is awakened to higher functions. The steps are similar to those we adults take in learning a new language, when our first efforts at expression are for nomenclature merely.

At this point the child will make constant use of slips of paper on which are written words, phrases and sentences. These will often be used in the form of a game. The children seated quietly in their usual places have these slips handed to them which have been skillfully prepared and selected by the teacher. Each child opens his slip of paper.

reads the words written therein and then carries out the direction. There is opportunity found for group exercises as the commands may involve the help of several children to carry them out. Or the teacher will at some moment in the morning write a question on the board and wait to see what child will be moved to write an answer underneath. By means of these and other devices, the idea takes root in the child's mind that writing is for expression of thought and a silent means of communication. He is then ready to make the transition from script to print and to learn the symbols for the printed page. This method of procedure reverses our usual order but I believe it is based on a sound educational principle. Most of the reading I *saw* in Rome—I use the word advisedly—was silent when it was for interpretation of thought. Dr. Montessori feels that to read aloud is an art demanding more maturity than the very young children possess. They receive plenty of training in articulation, pronunciation, and enunciation but it is motor-training and not confused with interpretative reading. Among the older children, however, I heard some reading aloud per-

fect in enunciation and expression. The children had in this art also the same positive mental image of the spoken word as of the written.

Together with this united training in writing and reading comes practice in composition. The idea of drudgery has been completely eliminated from the process of gaining technical skill, for the child's interest in his drawing has given him a motive and he has filled with eagerness sheet after sheet in completing one design after another, and with his free designs. He has quickly learned the alphabet by sound and sight and has combined letters or sounds into words. These words he has made into simple phrases or sentences in the manner indicated above. Just as a baby enjoys making the sounds which are finally to lead to intelligible speech so the child uses his new ability with the same zest. Reading is a pleasure to him because he has mastered the sounds and symbols; in the same way composition is not an irksome task but has interest because he has acquired mastery of his pen and has a clear image of the words he wishes to use. I spent one morning at the school in St. Angelo in Pescheria in the room

where there are older pupils who have been trained according to Montessori methods. To one of the little girls who greeted me I gave as a souvenir of my visit, a flower I had picked the day before at Tivoli. I had forgotten the incident in my absorbed observation of the children, when an hour or so later the same child brought me a letter—which she had written without any suggestion from the teacher—in which she spoke of the foreign lady who addressed her in Italian, described the flower and expressed her thanks for the little remembrance. All this was written without a mistake or erasure and with almost perfect penmanship and was an example of spontaneous composition, the result of pleasurable activity.

In the same room were children eagerly writing simple little compositions about "Water," a subject which they had discussed with the teacher the day before. They spent of their own volition over an hour in this way without any interruption by the teacher. They had in most cases very definite ideas of what they desired to say, showing they had the same power to get a clear idea as they had power to visualise.

This clearness of conceptual thought, as well as of mental image came, I believe, from their interested attention and was only another result of their sense training.

A teacher trained by Montessori must readjust her sense of values. Many things formerly considered important she must be content to neglect. Many other things acquire a new emphasis. In this manner she will conserve time and intellectual force and "the false will no longer seem great" nor "the truth so small." . . . For one thing, she must forget preconceived ideas as to the order in which the different elements of knowledge are absorbed by the child. "The three R's" may stand in turn for any one of the various forms of activity. One child will write before he reads. Another will make rapid progress in arithmetic, at first to the neglect of the other two factors in his education. For the order in which these have been taken up in this chapter is not one that is necessary to follow in practice with the children. Temperamental differences must be the guide.

During the child's progression towards reading and writing he has probably in much the same way mastered the elements

of number. While his sense of touch has been quickened by the rough and smooth tablets, geometric insets and sandpaper letters, he has also used the sandpaper figures and acquired a muscular memory of them as he did of the letters. All children come to school with some knowledge of number as a foundation to build upon. As they use the Long Stair, at first for training in dimension and in discrimination of length, they will recognise the divisions on the rods and gradually learn the series to ten. They will count by means of the red and blue divisions, one; one, two; one, two, three; and so on, until they can count ten on the three sides of the triangle which is formed by the rods when they are correctly placed. As they learn the sandpaper figures they will soon learn to place them on corresponding rods. They will be attracted by the box of spindles and will take pleasure in placing the correct number in the compartment as indicated by the figures which have been placed there by the teacher or another child. This will create an opportunity for them to become familiar with the concept "zero" ordinarily so difficult for a child to grasp. "Zero is nothing," a

child told me when I asked her why she had no sticks in the compartment where 0 was. This and other number concepts are developed in many ways: by a variety of games in connection with the phrases used for reading and composition; in the game of silence; and in exercises in practical life, such as taking care of the room, and setting the table, and in numerous other ways, as with coins or with counters ranged in rows to show odd and even combinations.

As they use the Long Stair, always a favorite game, the children will often show much intelligence and discover for themselves numerical principles and their applications. They will spontaneously devise simple exercises in the four processes of addition, subtraction, multiplication and division and so get very early clear concepts of number relations. They will visualise the figures as they have the letters and use them for expression of numerical ideas, passing in this way from the concrete to the abstract as they did in learning to write. When a child has expressed a numerical idea completely with the Long Stair, as for example *one* added to *nine* makes *ten*, he readily learns the abstract symbols

expressing the same idea: $1+9=10$. I saw many children using their slates or the blackboard to record all varieties of combinations without any dictation from the teacher. The more difficult combinations from ten to one hundred are learned with the help of a cardboard frame in which figures can be placed in any order desired and by means of which the decimal system may also be learned. The art of the teacher consists in careful observation and record of the progress of each child along this as in other lines of activity and by skillful intervention and assistance to give immediate impetus to the child's awakening intelligence. Group work is especially valuable here; the teacher may join one where several are playing together or she may observe such a group without mingling in it. Older children playing with younger not only help the latter but crystallise their own ideas. The same perfection of technique in writing numbers as letters and an equal ability for self-correction through motor memory and visualisation can be secured. By following this logical order as was done in gaining the technique of writing and reading for nomenclature, the child is again led from

the concrete to the abstract, from sense perception to conception. Thus through the three-fold avenue of reading, writing, and number, he passes to the wide fields of knowledge open to him through the medium of language as the expression of conceptual thought.

By this method, therefore, the child progresses steadily and rapidly from that stage of sense activity which is thought of as the kindergarten period into the stage of intellectual curiosity and activity which we call the elementary grade. The fence between the two is completely broken down. The rate of advance from one to the other varies with the individual. No child should be held back whose instincts are ripening and who shows a desire to write, to read or to make number combinations. Many a healthy child loving work has a contempt for the kindergarten and wishes to go to a "real" school. Dr. Montessori firmly believes that to a child play is really work and she appeals to the earnestness inherent in his nature by her material which gives his active mind such food as it craves.

There should be no fear of precocity.

The very word suggests one-sided unnatural development foreign to every idea of Dr. Montessori. Her great fear is that we in our zeal may seize on a part rather than a whole. By her method, honestly followed, many a child now forced ahead would be allowed to take his own time, just as other children would simply and easily follow their more rapid rate of growth. Nor should the growth of the child be mental only, for parallel with the advance in technique, in mental imagery from expression along these three lines of writing, reading, and number should develop also true liberty and obedience. The child ought to become master of himself as he has become master of the tools which are to serve him. His spontaneous interest and his free choice should arouse and strengthen his power of attention and of will.

A child reared in the environment of a Montessori school may well be compared to an architect of humble beginning, who, given the right opportunity and freedom to choose his own "helpers and servers," as Ibsen would say, rises to the eminence of master-builder. So a "Children's House" as it provides the proper implements of

learning, the unique method, the atmosphere of freedom so conducive to the liberation of the child's initiative—in a word, in its ideal equipment for an all-round development—may become the scaffold on which the child builds for future greatness.

CHAPTER IX

THE MONTESSORI PARENT

"The social environment of individuals in the process of education is the home."

Two pictures come to my mind as I think of the subject of this chapter. In the first I see in the heart of one of the poorer quarters of Rome a "Children's House" in the center of a block of buildings that has been reconstructed to fit the needs of the tenants who inhabit it. The vision appears before me of a large, bright, airy room in this house, filled with little children who, though plainly and even poorly dressed, are clean, happily active, and intelligent. Their Directress is quietly busy, passing about from one to another of the group, always ready to respond to any need, but never very much in evidence. Assisting her in the care of the children as they come and go, or as they need practical help in one way or another, or else preparing the food for the simple noonday meal, is a mother. Because of her love for her own child she

gives tender care to all other children. Because of her thoughtful study of her child and her sympathetic observation of the teacher, she is able to follow intelligently and helpfully her methods and give her real assistance.

The other picture reveals a beautiful home in the heart of the residential section of Rome. In a luxurious room, surrounded by evidences of wealth and culture, sits a mother with her boy and girl at her side. These are children of the rich, yet they are as simply dressed, as independent of service as if they had been born to poverty. They have known no other school than that of Dr. Montessori and their mother desires no other for them. At every stage in their progress she stands ready with encouragement, with a discerning knowledge of their needs, supplementing or carrying out at home all that they learn in school. Occupied and interested as she is in the social and philanthropic life of the city, she yet finds time for observation, for records, for experiments, for consultation.

It is such a response from mothers in widely separated strata of society to the spirit of Dr. Montessori's teachings that

shows its power; and I see with gratification a similar desire on the part of American parents regardless of class to understand and apply the theories set forth in her book.

Whatever may be the reason—whether the prominence given to the movement by a leading magazine, or whether something in the system itself has struck a sympathetic chord—the fact remains that many parents have shown by the remarks they have made or the questions they have asked, that they have read the articles, attended lectures on the subject, or read Dr. Montessori's book most intelligently. The interest thus manifested is to be compared, I think, with that taken in the kindergarten movement in the latter part of the last century when mothers' classes and lectures on Froebel's "Mother Play" drew thousands of mothers from their homes to study how best to help their children. In view of these circumstances, it is fair then to ask the question: Can the mothers learn more from this movement or system than from the kindergarten; and if so, what is the particular message to them? Mrs. Dorothy Canfield Fisher has spoken

as a mother to mothers and perhaps further comments on the subject are superfluous, yet I shall feel that one vitally important factor in the whole system is neglected if some discussion as to the relation of the parent as well as the teacher to this method is omitted from this book.

There is a possible significance in the names that have been universally adopted to describe the environment of the child in the two systems. "Der Kindergarten" (the child's garden). "La Casa dei Bambini" (the children's house). In one they play, in the other they live; one suggests a part only of their life, the other the whole of it. The same significant difference is felt as one visits first a Kindergarten then a *Casa dei Bambini;* the former should be and often is amply provided with all that pertains to the child's development through play, the other suggests in every careful detail the complete life of a child in his varied activities including play. And the deeper relation of the parent to the Montessori system is felt pervasively in every true Montessori school, for it is a type of a home. There should be much of the mother in every teacher, and much of

the teacher in every mother, so that working together in intelligent partnership of love for the child, no divorce of ideals or of means is possible. The whole movement is in danger if such a copartnership is not established and its terms loyally kept by parents and teachers. Only in this way, can the unified continuity and progressive character of the method be preserved. A true Montessori parent must, therefore, be willing to give much time to child study.

What do we mean by "child study"? What does it involve? What include? These words have been a shibboleth of American teachers for years. Classes for training in its principles and practice are found in every normal school and pedagogical institute. A complete bibliography of the literature of the subject would be very extensive. Nor has this movement been confined to the teaching profession. The interest of parents has been enlisted; long sets of questions have been sent to them, systematic habits of observation have been suggested, so that in theoretical results already obtained, we are far ahead of Italy in this matter. At first thought it would seem then as if Dr. Montessori could add

nothing to the work already done. But if we look deeper I think we shall find a clue which will guide us to the discovery of principles implicit in her system, which if applied in her spirit would make child study an even more vital and important factor in education than it has heretofore proven. Child study as it is often defined and practised, has been too formal, too much of a cut-and-dried thing. As teachers, we have snatched time from our over-burdened days of study or of teaching to follow a syllabus carefully prepared by some professor, and to make the observations and experiments suggested by it. If parents, we have followed with painful exactness the directions contained in some set of questions in order that we might make our records intelligible. Our chief purpose has been to gather facts, to compile statistics —which would throw some light on the problem—our spirit has been rather too coldly scientific. The key to the difference between such formal study and that which Dr. Montessori pleads for is found in the point of view. The emphasis is changed from the study to the object of study, the child. Observation, in a spirit of love, of

every manifestation of each living human being in its spontaneous expression of energy, and experiment based on such loving observation of each child's reaction to stimuli of whatever nature, is, I think, what Dr. Montessori has in mind when she tells us to study the child. It is not a child hampered by the arbitrary position in which he has been placed, or bound down to tasks dictated to him that is the subject of such observation; but one left free to do the work he has chosen in the way he instinctively elects, thus revealing his unfettered personality to the sympathetic insight of his parent or teacher.

Such a revelation of personality is necessary if the teacher or parent is to direct with a wise comprehension the "sane and sturdy growth" of the child under her charge. A study of child psychology demonstrates that the native capacity of each individual—the brain quality, so to speak—while it can be developed and perfected, cannot be changed. This native endowment is fundamentally different in one child or another; just as the amount of nervous energy in each differs. The mother love or the teacher love should watch the un-

folding life of each child with an absorbing interest and intense desire to help its normal expansion both mentally and physically.

We have been accustomed to physical differences in our children—we do not wonder at blue eyes in one sister and brown in the other, or a graceful slenderness of form in the one and a robust sturdiness in the other. Yet we express naive surprise at psychical differences, which are just as much to be expected, and it is still difficult for us to look for varying capacities and powers in the mental life of our children as well as in their physical. To free the life force, to guide it, to adapt the environment to it, to protect its individuality, to prevent any mutilation or imprisonment of it—that is what we mean by education, and such education must have as its inspiring force the study of the child.

This study to be adequate must cover every side of the child's life, physical, mental, and moral or spiritual—with a complete recognition of the interdependence of each. "A sound mind in a sound body" has too often been interpreted as if it were simply an ideal instead of a necessity. We are gradually yet surely coming to believe that

health of body means also health of mind and spirit and that the foundations of that soundness of body lie very deep. For years it has been a mooted question: Which exerts the greater influence upon the child, heredity or environment? But in this last decade, scientists and educators are coming to agree that even more important than either of these in its effect upon the child is the pre-natal period. So that study of the child really begins for the mother as she guards its pre-natal life. In her hands are often "the issues of life and death," for whether the child that is to be born of her is blessed with a sound body, with a perfectly developed nervous system, or the opposite, often depends on her wisdom and good sense during the critical period antedating its birth. After birth the study becomes more definite, more fascinating, more personal, as that little human wonder, a conscious life, slowly unfolds.

I have alluded elsewhere to the prolongation of the period of infancy, which is the prerogative of humanity, as an important factor in evolution. Plasticity as opposed to fixity is indispensable to progress. This

A LESSON IN THE ORCHARD, AMERICA

quality is inherent in the human brain cells to a much greater degree than in those of animals, for the animal's conscious life is bound by those fixed habits of the race which we call instincts; he can perform at birth, as perfectly as he ever will, many of the acts necessary to his life. The chick pecks at its food and follows the call of its mother almost as soon as it is out of the shell. The higher animals with a more complex nervous system, such as the mammals, are more helpless at birth and more dependent on the mother who feeds or suckles them, and so have more of that plasticity which is essential for their development. But such dependence in the animal is very different in kind and degree from the helpless infancy of the human race. This period is a time which, as is well known, may be invaluable to the mother for careful observation. Much has been said of this lengthened infancy but little thought has been given to the period of quiet which our advanced civilisation imposes on most mothers as they recover from child-bearing. If the pre-natal period is a vital one in its effect upon the child's future well-being and progress, of corresponding importance is

this time of convalescence for the mother. Weeks of withdrawal from the usual routine, passed in close intimacy with the new life which has been given to the world may provide, if properly used, a wonderful opportunity for forming habits of attentive and loving study of the baby which can easily be carried on after the ordinary duties of life are again resumed.

This study to be effective ought to be most comprehensive. On the physical side, of first importance is a proper understanding of the laws of growth. The mother of to-day has learned from her physician the necessity for observing and recording her baby's weight at frequent intervals, but few realise the necessity for studying the child's growth in height, in chest expansion, and in other ways; or for some knowledge of the normal rate of increase. Professor Tyler's "Growth and Education" has some valuable chapters which parents and teachers alike might consult with profit. A biological chart similar to that found on pages 76 and 77 of "The Montessori Method" could easily be prepared by a mother and on it she could record changes in weight, height, breadth of chest, length of limb

compared with length of trunk, and some cranial measurements. Such a chart could be continued by the teacher after the child reaches school age. The question of exercise is also very important. The little baby is normally very active and craves exercise without which muscular power would fail to develop and co-ordination would be impossible. Most mothers have learned the wisdom of giving the baby plenty of fresh air and freedom in the manner of dress and position, so that the random, impulsive movements so characteristic and so valuable may have free scope. But a deeper study of the laws of muscular development would give the mother a clue to the kinds of movements natural to the young child, such as kicking, wriggling, grasping; and would guide her own attitude to these. In this she must exercise a wise common sense. Babies fondled too much, who are tossed and tumbled about or whose natural sleep is too frequently interfered with may have their nervous system injured. On the other hand, if a baby is left entirely alone, he misses, as Professor Tyler suggests, not only that opportunity for strengthening his muscular system which animals give their young as they lick and

fondle them, but also the stimulation given by a mother's love.

Still another question for careful consideration is that of nutrition. On this point also most American mothers of the upper class have the benefit of the advice of physicians who are also child specialists, and as a rule follow carefully their directions. But they lack first-hand knowledge of the intimate relation between growth and nutrition. Just as the environment of the school should be fitted to the needs of the child so in its provision for cleanliness, sunshine, fresh air and quiet, as well as in its furnishings and decorations, should the nursery be adapted to the child's scale of dimensions and his sensory requirements.

Because of rapid growth at this period the child needs a sufficient amount of food to supply the requisite energy, yet because of the immature condition of the digestive organs the nourishment must be very fluid and of the same temperature as the body. The baby does not need the food containing starch and sugar which the adult craves, but does require albumen for the upbuilding of bone and tissue and a great deal of water. Thirst should be the normal condition of a

young growing child and he should not only have water in addition to his milk but frequent baths.

But the physical is only one side of a child's nature which unfolds under the watchful eye of the mother. Inherited instincts and tendencies, innate peculiarities, special powers and capacities, one by one observed in order to be encouraged or repressed as they are helpful or harmful, gradually reveal to her the higher spiritual side of her child. The principles of liberation of the inner force, of non-correction, of independence and of true obedience must be accepted and honestly adhered to from the beginning. The principles of non-correction and independence, for instance, must make a strong appeal to all thoughtful mothers. We all know the type of child which is described by the expression "tagged to his mother's apron strings" and we all know the secret desire of every parent worthy the name, that of making a man of the boy or a brave woman of the girl. If nagging or too much inhibition is made the daily practice in the home, the child cannot develop along the lines which make for a strong individuality.

Of course the principle of non-correction must be correlated with that of necessary inhibition, and the wise mother will learn by this study of the child which one to use as the occasion demands. Ideals of service, distinctions between good and evil, right and wrong, truth and error, can be inculcated by a watchful mother who directs with loving insight the development of her child.

On the mental side, careful observation and study of the beginning of the sensory life of the child which develops consciousness is equally necessary. The foundation for that later sensory training in the school should be laid in the nursery. The Montessori material provides for the needs and interests of very young children. In Italy children two years old are often seen in the *Casa dei Bambini* using the tower, prisms, and the frames. In America and England, where children enter school at a later age, this material might be first introduced in the home. The order of sense development, its relation to muscular control and to the growing conscious life of the child are all worthy of careful thought. This period is one in which sensory defects

can be detected and often remedied before they have advanced to an incurable or abnormal stage. A mother whose unselfish love is strong enough to make her willing to devote the necessary time, with habits of thought, of observation, of systematic recording formed in the manner suggested above through the year of pre-natal life and early infancy, will almost as a matter of course persist in this method of study of the child until the time comes for her to bring him to school. Having been trained by these years of experience she is then ready to unite with the teacher in interested and intelligent co-operation. Or if she is so situated as not to have the advantages of a good school within reach, these same years of training will help her to apply principles of the method to the use of the material either by herself or in a group with other mothers.

These considerations have naturally had reference to the class of mothers so fortunately placed that they can command time for study and have intelligence sufficiently trained to undertake it. But for the mothers who are uneducated, who being wage earners have little time for such study,

the socialised school must give them the training which is absolutely necessary in order to supplement what they themselves would have given had they had time and opportunity.

The next topic for our consideration is the parent's relation to the spirit of the system or movement. In any walk of life at the present day the parents are less with the child than was formerly the case. If they are wage earners, one or both parents must be absent most of the day. Neither has the tenement mother who stays at home always the time or aptitude to devote herself to her child. If, on the other hand, the mother is a social worker or philanthropist, a society, literary, political, or educational leader, the hours spent with her children are still comparatively few in number. What then is the solution of such a situation? Can the school so unite with the home that it will to a greater or less degree supplement it or even take its place by supplying the home environment and fulfilling the maternal function? Only, I think, if the parent and the teacher are in sympathy so that each works harmoniously with the other. This

can be accomplished if the principles which pervade and spiritualise the system be comprehended as fully and be followed as carefully by the parent as by the teacher. The liberation of the life force must be the aim of both, so that the child expanding in the atmosphere of the school, shall not be stifled at home. Perhaps in America, in "Your United States" as Arnold Bennett suggests, the danger is rather that the training in inhibition begun in school will not be adhered to at home.

The parent's share in the education of the child in independence, obedience, and disciplined activity is very great, and her responsibility cannot be shirked without serious results. Equally with the teacher must she make clear to herself the ideal she wishes to reach. Even more than the teacher, for her temptation is greater, must she sternly repress her own desire to lessen the child's freedom and weaken his independence by over-service. Her duty is to study the nature of the child, protect its personality, foster its instincts that they may be trained into useful and worthy habits, liberate its energies and guard against the injury that comes from careless neglect

of defects of speech, of carriage, of motor reaction.

This is a "counsel of perfection" of course, and only the mother who is genuinely desirous of giving her child its best heritage will or can follow it. To give the time necessary for all this entails a sacrifice, and the perfunctory teacher or the selfish, absorbed parent who is not willing to devote much time and energy to the cause, has no place in such a system. The weak, or lazy, or uneducated parent will give its child love perhaps, but not wise supervision; and to such, much of what has been written will pass unheeded. I can only hope that in some indefinable way, and in a time not too far distant, such parents may become aroused not only to the natural rights of the child, but to a sense of their own sacred obligations and responsibilities towards it as parents. Perhaps the message from La Dottoressa may be the very means of universally firing the mothers of the world to a proper exercise of their divinely given privilege—the sane and happy rearing of their offspring.

One difficulty in the way of realisation of these ideals will be found in the condi-

tions of American and English life. The little children of the rich are too often given over to the care of nurses and governesses; the little children of the poor must be neglected by parents who as wage earners spend a long day away from home. In either case, the opportunity for union and co-operation between teacher and parent is lacking. Whether these ideals if brought home to mothers all over the country, can awaken a desire for reform, both of certain parents as well as of the conditions, remains to be seen. Love can work wonders and the message of this system reaches the parents by way of their hearts.

CHAPTER X

THE MONTESSORI TEACHER

"The teacher has too thoroughly learned to be the one free activity of the school."

THE place of the teacher, or "Directress," as Dr. Montessori prefers to call her, in this system of education is not easy to define; nor is the ideal suggested by it easy to realise. Since my return from Rome I have studied with fresh interest not only our American children but also their teachers, and I have felt as never before the justice of the criticism latent in the quotation which heads this chapter. I have also tried to make definite to my own mind the essential difference between the best Montessori teacher as found in Rome and our own conscientious, intelligent, alert kindergarten and primary teachers. To do this it is necessary first to understand the principles underlying Dr. Montessori's conception of a teacher, just as we have already attempted to understand the controlling ideas which spiritualise the method. If, as so

frequently stated, the root idea of this theory is to liberate the life force within each child and guide its spontaneous manifestation into disciplined activity, then the teacher's place is no longer primary but secondary. Her chief duty is to observe, her chief aim, at first at least, the scientific yet sympathetic study of each child as a preparation for successful direction of his progress. Her watchwords are brevity, simplicity, concreteness. Her aim is rather to suggest than to dictate. She stands behind the child, not in front of him; she does not so much lead the child as follow him. "She gives a ray of light and passes on."

The Montessori system of education is both material and spiritual; neither element is sufficient by itself and in a true combination the spiritual force is supplied by the teacher. The training in child study and in psychological principles that furnishes a scientific foundation for the modern teacher is not enough in itself, for, as Dr. Montessori teaches, "we must seek to combine the self-sacrificing spirit of the scientist with reverent love of the child." A true scientist absorbed in his observation of some phenomenon of nature, forgets him-

self and his surroundings and sacrifices sometimes health or life itself in pursuit of truth. Yet the fact or manifestation which he studies awakens no love in him; that love is inspired by truth itself. The teacher, on the contrary, as a scientific observer deals with material that is human and lovable. Instead of the abstract love of truth which is the inspiration of the scientist there is the concrete devotion to the individual. "A little child shall lead them."

Again, as a scientist studies an insect or flower in its natural environment, so a teacher should study the child in that free atmosphere of untrammelled liberty which only a schoolroom planned and furnished according to Montessori ideas can give. Plenty of space, opportunity for frequent changes of position, liberty to move about freely or to talk—the only requirement being respect for the rights and comforts of others—these are the characteristic features of such a Montessori school as I have already described. What is the teacher's relation to it and to the children who use it? She is no longer "the one active force"; rather is she the guide, the helper, the suggester in a social group, all active, all learning

discipline through work. She must herself be taught some hard lessons of restraint, of self-effacement. She must not yield to the desire to give information. She must be willing to offer to a child that true aid which comes from leading him to help himself. She must direct less and suggest more.

What especial study of the child is required of the teacher in order that she may play her important part as director of childhood? In the first place, it seems almost superfluous to intimate that she must be endowed with a love of children and a capacity to understand them that will in itself arouse the mother-instinct latent in all women. In addition to this her early training for the position of teacher should have included thorough, humanised, vitalised courses in child psychology. Following or accompanying this there should be special training in the technique of child study as Dr. Montessori understands and practises it. An opportunity for such training has now been given a large body of American and English teachers in the training school under Dr. Montessori opened January, 1913, in Rome. Our

Anglo-Saxon children will soon reap the benefit of that first-hand knowledge of technique which it is impossible to gain from any reading even of such an invaluable book as "The Montessori Method." Such a training will provide as a foundation some knowledge of anthropology. A teacher should become familiar with the structure of a child's body as it differs from that of a mature human being. She ought to learn the varying rates of growth of the different organs. She should understand how to take important measurements which will test that growth as normal or abnormal: measurements of the trunk with the child erect or seated, of the cranium, of the jaws; keeping at the same time a careful record of his increase in weight month by month. She should be taught how to facilitate the work of the school physician by arranging her class records in such a way that á biographical chart of each child will be kept, to which parent, physician and teacher will have access. Such training for the methodical observation of the morphological or anatomical growth of each child will fit her to assist the mother in an early detection of any tendencies, which if un-

checked would lead to disease or deformity such as adenoids, curvatures, flatfoot, undeveloped jaws and so on. In addition to this any defects of his sense organs, such as deafness or faulty vision, can be quickly detected and remedied as his growth in sense perception is observed.

The teachers of the Montessori method in Rome who have, to a great extent, absorbed the spirit of its Founder have gained from the training and the inspiration they have received, a wonderful power of intelligent comprehension of the child's actions at work or at play. These calm, quiet, restrained women who keep in the background, who talk as little as possible, who carry the policy of non-interference almost to an extreme, have learned how to interpret child-life and how to give the helpful suggestion or explanation that will promote, not hinder, true freedom.

Each child has a natural "brain set" which is peculiar to himself and should be noted by the teacher as a guide in furthering his development. If he is "eye-minded," knowledge will come to him largely at first through the sense of vision; if "ear-minded," through that of hearing; and if "motor-

minded," by his muscular sense and that of touch. This peculiarity of "brain set" will to a great extent govern his interests. The child of the visual type will be attracted by colour or form, or will be quick to observe. If of the auditory type, he will be susceptible to the spoken word or to music. If of the motor-type, he will delight in active games or in handwork. As the consciousness of the child develops and his perceptions are made keen and his power for logical thought awakens, this "brain set" will show itself in relation to these powers and should be carefully noted. I was interested in observing two little girls whose reaction to the same stimulus was most interesting because so different. One of them had what is often called a verbal memory; her brain cells stored up and released at will the name of the thing she played with. She learned the names of all the fabrics—silk, cotton, velvet; of the simpler geometric insets and of many of the colours and did not forget any of them. The other child, equally intelligent though in a different way, had little verbal memory but great power of association. Every train of thought in her active mind had its

connection with some other. A chance word overheard in the conversation of older people would awaken a whole set of associations. Learning in her case will be quite a different process from that of the first child, and both should be studied so that they may be understood, and properly because differently guided. I watched two other children as they played with the metal insets while making designs. One cared only for the form and was content to outline more and more accurately circles, ovals or triangles with no desire to fill in these outlines with colour. The other child cared little for the form but loved to fill in the outline with combinations of colour which grew more and more harmonious. To me the intrinsic value of this material is its variety of application and adaptation, not alone to the many personalities using them but also the many-sided nature of each. This free use affords the teacher or the parent an unusual opportunity for insight into child-nature.

Such heedful, conscientious study as I have indicated of the ability and natural gifts of each child will be of immense benefit to the teacher as she follows her observation with

those experiments which she will make as she leads the child from the world of sensations to that of ideas; but this study must be supplemented by a special training for such experiments. The problem now becomes one of intervention, for the activity of the teacher must be more direct as she selects stimuli to which the child will react and gives simply, clearly, and concretely the knowledge for which he is ready. But her intervention should be as slight as possible that the child's own power may not be stifled. Her study of the child must now be almost instinctive or intuitive, for from her previous observation she should be able so to understand his nature as to know how much to give and how much to withhold, where to lead and where to follow. She should look forward most eagerly to the moment when a child passes from perception to observation and then to generalisation. She should in every case respect the child's love of discovery and not force but await his spontaneous observation and the beginnings of his logical thought. She should not be surprised to find this progress in higher conscious life appearing much sooner in some children than in others.

It is only by emphasis of the principle of the passive observation of his spontaneous life, that the teacher can watch the development in the child of those native instincts which, trained into habits or suppressed entirely, will make of him an intelligent, well-poised human being. This unfolding life of the child must become of paramount interest to the teacher as she regards it and guides it so she may distinguish between manifestations, which should be repressed, and those to be respected. Her aim is to hinder or entirely suppress all harmful acts, that the child may in this way be brought to see the difference between good and evil, and to understand that being good does not necessarily mean being quiet. After the teacher has, through this constant devoted observation of the child's activity and through tactful suggestion, helped him to suppress wrong acts and has gained his confidence and love she is ready to obtain from him as a member of a group that collective order which is an essential training for life. Here the great psychological principle of habit comes to her aid; for when a child has been given a definite place to occupy in time of quiet, he will naturally by force

of habit return to it whenever in a similar mood. The school day affords many opportunities for training in this collective order which a wise teacher will seize upon. The child's sense of harmony, of symmetry can be developed in this way so he will come naturally to desire and feel pleasure in such order.

The teacher must also assist the child to gain independence by careful avoidance of any needless help. She must allow him from his earliest years to wait on himself and others, take out and put away the material, move the furniture, carry the dishes if meals are served, until she has aided him in this way to a conquest of himself and his environment. This independence so important to the moral life of the child may be fostered by the teacher through her appeal to the right motive. Dr. Montessori's insistence on the abolition of prizes makes requisite a substitution of other and better incentives. To inspire in a child delight in work for the work's sake and joy in creating is a much higher yet more difficult undertaking than to give material rewards. Here a teacher has to deal with contrary instincts and her wisdom is shown in the way she liberates

the one and suppresses the other. This principle of abolition applies also to punishment. Her study of anthropology as well as of psychology will help her to understand apparent willfulness or "naughtiness" and judge whether the cause is some defect which may be cured, some instinct not yet aroused or some other instinct already perverted, or even arbitrary expressions of the teacher's will which the child does not understand. There is great danger just here of a misunderstanding of a fundamental part of the method which might be interpreted as advocating a system which will develop a "mollycoddle" or a "spoiled child" or an irrepressible self-willed personality, a source of terror to the teacher. Such, however, is not the case; for a child reared under such a régime should become the embodiment of a strongly visualised ideal of a spontaneous yet disciplined, active yet obedient, personality that is to grow up under her loving care and observation.

To a thoughtful teacher the child will unveil his moral as well as physical and mental nature. She must inspire him on his path to true obedience by first understanding him. She will have ascertained

from her study of psychology that just as there is a different approach to knowledge by one child or another according to the strength of the sensory appeal, visual, audible, tactile, so when we consider progress towards behavior in one or another of our pupils we shall find varying types of will. This psychology of will has an important bearing on the moral culture of the child for it is will under the influence of emotion that determines conduct. In this way each child can be stimulated to his own highest moral unfolding through the liberation of his voluntary nature.

Reference also should be made to the study of each child as it forms one of a group, whether at work or at play. Much has already been said of the preparation for collective order and collective activity through individual training. This preparation if it has been successful will now place the teacher and each child of the group in a sympathetic relation to each other through mutual understanding and love, so that the response of each to each is as real as it is in individual exercises. The teacher then will have a right to expect in this collective or group work not a mechanical, automatic,

drilled, devitalised activity but movement which is harmonious and united yet spontaneous. The game of silence so often referred to is an illustration of this. The time when the child is at play in his hours of pure recreation, when he is out of doors or in the room with his toys, should be one very precious to the student of the child whether she be his mother or his teacher. It is when a child is at play that he is most spontaneous, therefore more interesting, because unconscious disclosure of his personality will be made. The child's attitudes, choices, instincts, tendencies, capacities, all pass in review before the gaze of the thoughtful observer and give her clues to be followed in all her later intercourse with him. The Montessori directress like the kindergartner will find in the morning talks which correspond with the one to the "morning circle" of the other, many opportunities for helpful correlation of home and school. The child, expanding in the sympathetic atmosphere, tells of his recreation, of things he has noticed on his way to and from school, of little opportunities he has found for kindly, courteous actions, little services performed for the mother. The teacher can assist the

formation of good habits along these and other lines, and arrest wrong tendencies which these intimate talks will disclose to her, at the same time taking precautions to prevent any undue revelation of the privacy of the family.

The teacher and the mother meet as the child enters school, each with a different equipment for study of the child, but both actuated by the same desire, the child's highest welfare. The results of such thorough observation on the part of teacher and parent alike should be kept for succeeding teachers who will afterward come into the life of the child, that their power to help his growth may be intensified by knowledge of his previous life, surroundings, habits and native tendencies and peculiarities.

Can we make any simple practical application of these principles of child study as we consider, in turn, the teacher's relation to the child and to the material he is to use? As the teacher assumes direction of a group of children she has in her own mind a well-defined ideal of discipline; not forced, military, automatic discipline but that which comes from self-training and self-control. This ideal will be slowly evolved as each

child adapts himself to the atmosphere of freedom and spontaneous activity and grows into such a loving friendship with his teacher who is his guide, philosopher and friend, that he unconsciously adopts her suggestions. In the *Casa dei Bambini*, in Rome, which I have already mentioned, the teachers reside in the same block with the families of their pupils, and thus have opportunity for intimate relations with the children, not possible in a country where the co-operation I have referred to is not so easily obtainable. A shorter school-day also affords less opportunity to come into intimate and affectionate bonds of sympathy and interest without which the Montessori ideal of discipline cannot be fulfilled.

An American or English teacher must free herself from many preconceptions if she is to enter into the spirit of this method. She should realize, even more fully than she has, that the child's self activity must be provoked, his interest stimulated and his auto-education assisted along those lines which he himself chooses. She must shift her point of view from the subject matter to that of the child. She must learn to feel less anxiety lest a definite amount of infor-

mation for which she feels responsible may not reach the child. We feel that our duty to a child in the elementary school is not performed unless he has each day a full and varied program consisting of considerable training in English and arithmetic, some geography, some history, some nature work and manual training and in addition physical culture. My first impression as I visited in Rome one school after another where there were older children was always one of leisure, of calm, of freedom from anxiety lest these children should not receive the all-round education provided for by the course of study. I felt at first that something was lacking when a morning would pass without any geography or nature work for the older pupils. Then I began to realise that children naturally work intensively rather than extensively and that the teachers in following to its logical end the principle of spontaneous activity, allow their energies full outlet in one direction at a time. I saw four little girls, seated together at a table, spend the whole morning—except that part of it devoted to collective games—in writing. I saw another group so interested one day in the study of design that all their work had that

idea for a focus. Here the art of the teacher was brought into play when by tactful suggestion the children were led to other fields of activity. This simple, intensive, self-directed, spontaneous activity of the pupil affords the teacher ample time for methodical observation of this expression of liberty; and for careful records of those observations. The teacher must be competent through nature and training to assume the rôle of respectful observer of an active individual who, especially in very early years, must have perfect freedom, and she must therefore carefully refrain from imposing arbitrary tasks.

Those stages in the progress of a child which we have tried to distinguish in the three chapters on motor, sensory, and ideo education stand in a very definite relation to the teacher but in differing ways. The first period, that in which the child becomes accustomed to the liberty of a Montessori schoolroom, is perhaps one to test to the utmost the ability of the teacher and one in which she will probably feel the greatest discouragement. For she must have a strong grasp of the spirit of the method, tact and wisdom to refrain from

checking any spontaneous manifestations of the child's individuality and equal wisdom in checking vicious or dangerous impulses. I found the greatest contrasts at just these points. The failures were teachers who could not balance expression and repression or suppression, who could not distinguish between orderly disorder and purposeless confusion, who did not know when to act and when to refrain. The successful teachers, and they were in the majority, I am glad to say, had poise, loving insight, power to keep themselves in the background, together with a strong persuasive influence that guided or suppressed without compulsion.

The second step in the child's education, that of refining and perfecting the senses so as to prepare him for the higher life of perception and of thinking, is, as we have seen, largely auto-educative. The teacher's place at first, as has been so often stated, is purely secondary and passive. She must resist her desire to correct the child's blunders and to aid his progress. This is the period when her observation of the child should be constant, sympathetic and interpretive, but not preventive. As the child

uses one piece of the material after another and by means of it refines his perceptions and his power of discrimination the teacher must be content simply to watch the child use the material and observe and record its effects upon him. Then as the three periods are followed the guidance of the teacher becomes more direct and her method includes experiment with observation. That is, the teacher uses the didactic material with which to make an experiment and then awaits and notes the child's response in the same way that a chemist performs an experiment, awaits the reaction and then records the result. Certain definite ideas should animate the teacher in this important guidance of the child. She must remember that the effect should be not fatigue but pleasure; that she must intervene to prevent fatigue; that it is her especial function to direct the child in both his physical and mental development. She must remember the value of repetition in refining the sense perception; that it is necessary sometimes to isolate the senses and sometimes to fuse them. For example, the sense of hearing or of touch becomes more acute when the child is blindfolded; on the

other hand muscular memory as developed by the fusion of the sensations of vision, sound and touch renders intellectual progress much more rapid and in fact explains the "explosion into writing" that seems so remarkable. She should present the material with great simplicity, using as few words as possible, at first in strong contrast then with very slight variation of form, colour, weight or size. Each of the three periods of Séguin of which so much is being said, has its own definite value at this stage. In the first the child learns to associate the sense perception with the name of the object—"This is red." In the second he learns to recognise the object as he hears the name—"Give me the red." In the third and most difficult he remembers the name which corresponds to the object—"What is this?" "Red." Here again she must enforce the principle of non-correction, and if the child makes a mistake, she should return to the earlier periods and await the moment when he is ready for the third one.

Perhaps the point at which the influence of the teacher becomes most effective is in the third great stage of his development when the child passes from sensations to ideas,

from perception to apperception, from the concrete to the abstract, from observation to generalisation. The problem now confronting her is how she can best guide the child to concentrate on the object just as she previously helped him to isolate his senses in order to perfect them. The solution of this problem is made easier by the use of the first of the three periods when the child associates the name with the object, and is led in this way to exact discrimination in the use of words. She should watch for the moment when the child begins by observation to generalise and apply the ideas he has received to his surroundings. I have already described this progress in a little boy as he used the colour pencils and by observation corrected his first crude ideas. I saw another child draw a rude figure of a man with simple straight lines for legs and arms. A fellow pupil in passing added five strokes at the end of each line to indicate the fingers and toes, showing that he had observed more than the first child.

I was interested in contrasting two lessons on the subject of colour which I observed; the first in a kindergarten in Rome, the second in one of the best of the Mon-

tessori schools. In the first school the teacher stood in front of fifty children each of whom had on the desk in front of him red, blue and green balls of wool. She first destroyed the unity of her lesson and confused the children by pointing to a chart behind her on which sheep were painted, telling them their balls were made of such wool. Then she told each child to dangle his ball by the string attached to it, thus giving him the idea of a bell. She next took three tumblers of water each of which held one of the primary colours and by mixing them together produced the secondary colours, the names of which she taught the children. This was an example of too much teaching with the effect of hampering instead of aiding the child's power to make general use of special sense training. The other lesson was also what the Montessori teacher who gave it would call a collective one. She had brought in with her some beautiful specimens of leaves just changing into their autumn hues and placed them on her desk with no remarks. Some children, attracted by the novelty, attempted to sketch them with their coloured pencils or in water-colours.

Those children whose sense of colour was well developed reproduced the tints almost perfectly, others with various degrees of crudity; but all worked spontaneously. The art of this particular teacher was shown in her ability to intervene to a greater or less degree as the child needed much or little help. In other words, the teacher can so direct the efforts of the child that he gains quickly a sense of power and ease rather than of failure and discouragement.

That the child's love of knowledge is instinctive is demonstrated by the questions which are so characteristic of him. We can help him to gain the knowledge that he seeks by telling him simply and clearly the names and attributes of the things that make up his environment. In this way he will by a slow yet certain process gain abstract ideas of form, colour, temperature or size, which he will soon apply properly.

In the period when the child passes from drawing to writing and reading, from the early use of the Long Stair as a sense exercise to its subsequent use as a medium for number teaching, the relation of the teacher

to her pupil becomes still closer. She assists the child in all those exercises with pencil or finger by means of which he acquires the technique of writing. She stimulates his desire to read by giving, through the medium of a game, simple phrases or written commands which he can obey; and in thus learning to read first for nomenclature and not for the expression of logical thought, he acquires the needed skill. He is then ready for that higher process of interpreting ideas from written signs, which is what is really meant by reading. The teacher must observe the child to ascertain when the idea of reading as a logical language dawns upon him, and in that instant he is ready for the practise in composition which should precede logical reading. In anticipation of this moment she will have prepared a number of long sentences written on cards or on the board with which to attract his attention. As he reads them in silence and follows the thoughts they contain, the idea is brought home to him that written language is another medium of expression, and he will delightedly resort to the use of this new method.

Such a relation between the teacher and

her pupils and such a conception of her office as one of observation, stimulation and experiment as I have tried to portray, cannot be realised without thorough preparation and training. In addition to psychological, biological and anthropological studies she should have very thorough courses in the use of the material as a means for training the senses, especially that of touch. Theory in the shape of educational psychology and practice in the application of this theory by means of the material are two essential factors in a teacher's preparation if she is to make clear to herself the purpose. A Montessori teacher who has had the usual kindergarten or normal school training will have to unlearn much that has seemed vital in the other systems. For this reason she should have opportunity for observation of a Montessori teacher and practise in a Montessori school. If her ideal is that "wise passivity" spoken of by Wordsworth, if brevity instead of fluency, restraint instead of action, suggestion instead of dictation are to be her watchwords, she will need to make herself over—not an easy task and not to be accomplished without much trying of soul. But the reward

is great—the joy of seeing, as a result, the unfolding of a human life, a joy in which the parent and teacher, working in harmonious co-operation, each has a share.

CHAPTER XI

THE MONTESSORI MOVEMENT AND ITS CRITICS

"An elementary school loyal to the principles of respect for the freedom of the child in its spontaneous manifestation."

SINCE my return from Italy I have marked a significant change in the nature of the interest aroused in Dr. Montessori and her theories—a change so significant that we may well choose as the subject of this chapter, the Montessori Movement, its growth, its characteristics, the criticisms it has received, and its probable effect on the school systems of England and the United States.

The cause of this interest has curiously reversed the usual order. Under ordinary circumstances a new movement in education or a new discovery in science finds its way into the popular press long after it has been discussed in academic or scientific circles. In the case of Dr. Montessori and her system, whatever may be true in

England, most Americans first heard of her through the articles in a well-known magazine. Those graphic accounts of early visits to the Montessori schools in Rome aroused a degree of popular interest and enthusiam, such as a discussion in educational circles would never have received. One article followed another, courses of lectures were given, a school was opened in the United States, the subject was discussed at kindergarten meetings, a translation in English of the "Method" had a large circulation, not only in England and America, but all over the world, and finally trained observers were sent to Rome as official representatives of educational institutions.

In the meantime we have entered upon the second phase of this movement. The first was that of the heralds; the spies went into the land of Canaan and brought back very large bunches of grapes. The stories of the miracles, of the wonders seen, aroused tremendous interest, and there was great danger that the ancient national experience would once more be repeated of a wild enthusiasm and a fickle public leading to a senseless reaction. The second phase, fortunately, has been that of the trained inves-

tigators who have visited the Italian schools in sufficient numbers to create a body of intelligent exponents and critics of the Montessori theories and methods as they are found there. The third phase will come as the teachers return to England and America from courses with Dr. Montessori, prepared to teach according to her training and by her authority. The fourth phase should be that of experiment by these teachers with possible adaptation and amplification; a phase made necessary on account of the temperament and environment of the American and English child, so different from that of the Italian. It is a phase with which, I believe, Dr. Montessori will be in entire sympathy, for she is so thorough a believer in a positive pedagogy for the future, based on observation and experiment that she will herself be one of the first to make such changes and amplification as further experience proves necessary.

While we await the third and fourth stages of this movement in America, let us examine as carefully and impartially as possible the discussion that has followed the return of so many professional investigators. These discussions may be grouped for our

purpose under two heads: first, those that consider the movement as affecting our kindergartens as they are at present established in the United States; and, second, those that criticise the system in view of the advance in educational theory and practice in this country, and also in its relation to modern pedagogical and psychological beliefs.

The kindergarten, in spite of much severe criticism in recent years, is strongly entrenched in our educational system. It is perhaps better organized than any other department of our schools, and although its adherents may be grouped under two classes, the conservatives and the progressives, there is a strong bond uniting them—loyalty to a common principle. The leaders in kindergarten circles were inclined at first to view with alarm the wide-spread attention given to the Montessori system, and to set themselves in opposition to it. But the sober second thought of those who were fair minded and receptive, recognised the fact that in the evolution of educational principles, another great era had been arrived at which should not be dismissed with contempt or belittled by sarcasm, but studied most

conscientiously and intelligently. In consequence of this fairer attitude of mind shown by influential leaders, kindergartners all over the country have read Dr. Montessori's book, attended lectures, made her theories a subject for discussion, and in addition to this have heard the reports of those of their number who have visited Rome for first-hand knowledge. As many kindergartners are enrolled among those to take the training course in the winter of 1913 in Rome, the mooted question of substitution of one system for the other, or of modification of each by the other, should be held in abeyance until a number of schools under trained Montessori teachers have been opened as experiment stations, where those modifications and adaptations which wisdom and experience will find expedient, may be slowly and harmoniously tested. By following out this plan a sense of security and belief will arise that can, in my opinion, be inspired in no other way.

Such discussions as I have outlined above have been entirely practical; those that involve a criticism of the system on pedagogical and psychological grounds, while more theoretical, are none the less important,

and the method should be weighed most carefully and tested most thoroughly in view of these criticisms.

Because of two prominent characteristics of the method—the importance given to the individual and the stress laid on sense training—the assertion is made that Dr. Montessori is to be classed with Rousseau and Pestalozzi and is therefore out of date. Because of her cardinal principle of setting free the personality of each child through auto-education, some fear that she is opposed to the Herbartian doctrine of apperception which is so widely accepted at the present time. Because of the formal, scientifically exact nature of much of the material used for the training in sense perception many think the purpose to be formal discipline, an idea opposed to modern psychological beliefs. Again, on account of the didactic nature of the material they feel that the quality of freedom is strained, and that there is no real liberty, and little opportunity for initiative or creative, imaginative expression.

Let us take up each of these points in turn: that the system is old-fashioned and in the class with Rousseau and Pestalozzi; that it is opposed to the Herbartian doctrine

of apperception; that it trains for formal discipline—a theory discarded by modern psychologists; and that the liberty of the child is restricted and no opportunity given him for creative, constructive or imaginative expression, and see if they are well taken.

If the evolutionary doctrine holds in education as elsewhere, we expect to find the present expanding from the past, and should study Dr. Montessori as the latest in a long line of thinkers and find in her the influences of her great predecessors. A creative genius does not create the materials with which he works, but out of old parts evolves a new whole which is his original contribution, his gift to the world. A creative genius hammers the dead iron of the past on the anvil of present experience in the fire of a living enthusiasm and so forges a new implement for the future to wield. In such a system as Dr. Montessori's, therefore, we find elements derived from previous philosophies of education combined with a unique contribution which marks its advance over them. There is an apostolic succession in education as in theology, a laying on of hands as the spark is handed down to succeeding generations—

"I am the owner of the sphere
Of the seven stars and the solar year,
Of Cæsar's hand and Plato's brain,
Of the Lord Christ's heart and Shakespeare's strain."

We need not be surprised, then, to discover in the philosophy underlying Dr. Montessori's theories and practice many ideas from the past which have stood the test of time and have survived because of it, and should not feel that the presence of such influences means reversion instead of progress. They survive, shorn of all that was temporary, and unite with other elements of that universal and permanent Truth towards which we aspire.

We find either expressed or implied in the Montessori theory of education Rousseau's belief in individual training without the extreme isolation suggested by "Émile" or that complete return to nature as a teacher which he advocated. In it is the unifying principle of Froebel and his theory of self-activity freed from his symbolism and erroneous ideas of geometric analysis; the sense training of Pestalozzi as a basis for higher thought processes and not for formal discipline; the apperceptive ideas of Herbart

combined with the doctrine of effort; the Bergsonian belief in intuition; the Fichtian conception of will; and the Emersonian idea of freedom limited by law. Because all these ideas have stood the test of her long years of experience in her vision of truth she is a pragmatist as well as an idealist. She hitches her wagon to a star, her conception of truth has grown out of a practical application of theory to life.

We may perhaps understand more clearly the nature of Montessori's original contribution to the evolution of an educational system if we now compare her with her great predecessor Froebel.

Froebel and Montessori especially lend themselves to a comparative study because both had genius of the creative, intuitive order; both could rationalise a system and both could devise the practical materials and methods in which to embody it. They differed in preparation, in point of view, in emphasis, and in method of approach as well as in the concrete form in which they clothed their theories. Let us take these two great geniuses in turn in relation to each of these points.

Froebel lived in Germany during a period

of philosophical thought. Metaphysics was in the very air he breathed. Of scientific training, as the twentieth century understands it, he had little. He lived in a retired German village the simple life of its schoolmaster. He saw deeply into the heart of a child. He intuitively understood its need for self-activity, and realised the value of play. He awakened the mothers, just as Rousseau had before him, to a sense of their rights, privileges, and duties; but lacking a scientific training, a knowledge of child-psychology, and of biology, his preparation and experience led him to take a philosophical rather than a biological point of view. He had the philosopher's vision of the Universe into which the child was to be introduced. He saw or thought he saw fundamental laws of unity with which the child must come into harmony. His deeply religious nature dwelt on spiritual abstractions until they seemed inherent in all material manifestations. This point of view necessitated a peculiar emphasis which affected both his choice and presentation of material. Philosophical laws guided his selection; abstract ideas decided the order of presentation. To his mind, largely that of the mys-

tic, truth appeared in the guise of symbol, the outer form of which must typify the inner spirit. For that reason Froebel's method of approach was centripetal rather than centrifugal. He said, it is true, "let us live with our children," but his purpose was to lead them into the Universe which he viewed so philosophically and so mystically. As a consequence his disciples have for years followed a method of presentation which seemed best for the abstract child. Go into almost any class-room for a day's visit, and if its teacher is not heterodox you will find a unified order for the day in which everything is related from the morning circle to the final good-bye song. Go into any kindergarten in any city in the latter part of the year and you will find the same subject, the "Knight." Some years ago a young and enthusiastic kindergartner had for several days imbued, as she supposed, the souls of the little ones under her charge with the spirit of loyalty and truth, through the cumulative effect of stories, pictures, and games about the knight, until, thinking it time to give a concrete exercise, she told them to make a knight in clay. She left the room for a moment for a brief confer-

ence with her principal. Suddenly one of the little tots ran into the principal's office, climbed into her teacher's lap, threw her arms around her neck and whispered, "I can't make a knight; mayn't I make a scare-crow?" I found in the Montessori teacher rebellion against such an indirect approach to truth by way of symbol as the Froebelians have been trained to take, and this incident illustrates, and a hearty endorsement of Dr. Montessori's pragmatic, direct approach. It is perfectly true that Froebel was the first to expound the doctrine of self-activity and to seize upon children's play as a means of outlet for that activity. But he could not appreciate the biological reasons for both, or their true significance as factors in the child's physical and mental growth. He therefore limited self-activity and modified the play impulse by making them conform to his philosophical theories as embodied in his systematically conceived series of gifts and occupations. He believed in child-study but it was an abstraction he had in mind, not a living, breathing, human individual in embryo. Hence the emphasis given to the group rather than to the individual, to the social rather than to the biolog-

ical function of education. "The morning circle," the group games, the table planned for a number of children in the gift work or the occupations—all serve as illustrations. The place of the teacher in this system also shows the limited conception its founder had of the doctrine of freedom and self-activity. Her training, careful and thorough though undoubtedly it is, emphasises philosophical abstractions, symbolic presentations more than scientific observation of the individual child. In too many kindergarten training schools teachers learn the use of the gifts and the occupations and the best way to play the games by practising with each other rather than with children. The material is also used, at first at least, by groups of teachers instead of by the children who should be observed by the teacher.

Let us now make a similar study of Dr. Montessori. Her preparation has been dwelt upon elsewhere, so for our present needs a brief review will suffice. A young doctor of medicine, her first clinical experience was with children. Interested at first in the problem of the deficient child, she became a student and then a lecturer on anthropology in its relation to pedagogy. Years

of successful experience with mentally defective children led her to the conviction that the normal child was sadly hampered by unscientific and unpedagogical methods. Years of successful application of her methods to normal children place her in the ranks of the educator rather than the theorist.

If Froebel's point of view represents the metaphysical philosophy of the eighteenth century, Montessori's is that of the scientific idealism of the twentieth. Froebel looks for the generic in the individual; Montessori looks to each individual in his spontaneous development to be a step to the higher development of the race. She has the same reverent belief in the spiritual life of the child; and her goal, its complete development, is the same; but her thoroughly scientific preparation has proved to her that the flowering of that spirituality follows natural laws. She sees in the baby an undeveloped human being with infinite possibilities, which can be fulfilled only by the liberation of his personality and by conquest of the limitations of heredity and environment. Again, her point of view is that of the individual child, not an abstract conception of childhood. Such

contrasted points of observation are logically followed by as differing an emphasis. Where Froebel was primarily general and symbolic, Montessori is chiefly concrete and practical. This has led to the hasty judgment that she is materialistic, that her method lacks spirituality, and that no appeal is made to the imagination or creative powers of children. The same criticism is laid upon the century in which she lives as contrasted with the one which gave birth to Froebel, with as little justice. To see life as it is—as an evolutionary process—need not imply a materialistic tendency. In fact such a position need not make one less, but rather more truly, spiritually minded. Montessori has herself noted this inter-relation of science and idealism, the fact that practical science and spiritual idealism keep pace with each other. Her philosophy combines a biological method with a philosophical groundwork.

If Froebel's method of approach was largely centripetal, working toward the child, that of Montessori on the contrary is centrifugal, out from the child. Her purpose is to liberate the life force within the child so that he can conquer his environment. She

thinks of each child as a living, biological manifestation to be separately guided and studied. She puts the child first, the group second. Her problem is the individual child considered biologically and socially.

As to the concrete embodiment of her theories in her didactic material little remains to be said after the study that has already been made except for the purpose of contrast or comparison. I believe it to be more practical, more suited to the auto-education of the child, more progressive and more complete as a means of sensory training. Dr. Montessori would retain Froebel's cubes and bricks, the clay modelling and some of the games. I see no reason why we should not keep the morning circle in a modified form and the story-telling if it is not forced.

The material is more practical because it relates directly to the life of the child and aids in making him independent. It is more auto-educative because it controls the error and the child, in the beginning at least, needs little help from the teacher. It is progressive as it leads the child by a series of logical steps from sensations to ideas, from the concrete to the abstract, from simple

muscular co-ordination to acts involving much intelligence and thought. By it all the senses are trained, especially that of touch, but the aim of this training is not to perfect the senses but to lead the child by full sensory life to perception and conception. Critics of the method fail, I think, to see that the purpose is for general sense impression rather than formal discipline. For this reason it differs from the sense training of Pestalozzi which had such a vogue many years ago. A wealth of sense impression is needed as the child's higher consciousness develops, or his brain cells will not function or his motor-activity be co-ordinated.

Sense training as Montessori understands it has for its aim the development of keen perceptions which in their turn will provoke observation, association and generalisation. The biological effect of this sensory training is in the developing of the association centers in the cortex of the brain and of the nerve fibers connecting them; and the psychological effect in the change from the instinctive, impulsive life of elementary consciousness to the higher conceptual and voluntary life of the fully developed mentality.

Critics also complain of a poverty of material in this method. There are three answers to this, I think. In the first place, Montessori herself considers the material a necessary minimum only, and would welcome, I believe, such enrichment of it as our experience will prove wise for the American child who has much more initiative than the Italian. In the second place, as it is used spontaneously by an interested child, his awakening intelligence finds all sorts of original ways of using the material where a more sophisticated teacher would fail. Again the material as it is sold in this country gives no hint of the opportunity for free play, of free design and of manual and nature work that the system provides for.

A final comparison between this material and that of Froebel should be made as to its effect on character. The two great thinkers are alike in the paramount place they give to character building but they differ in the means for acquiring it. Here again, it seems to me, Montessori is true to modern psychology in the importance given in her system to the development of the will through choice, through desire, and through effort.

She does not think of the will as a separate faculty to be trained but as the flowering of the whole personality, the whole mind active. Her aim from the beginning is to lead the child to distinguish between right and wrong, good and evil, and spontaneously to desire and choose the right action. Liberty for her means liberty through law; obedience involves discipline; independence is gained only by means of inhibition; true freedom through complete realisation of self. A complete understanding of this principle will confute the criticism that her idea of liberty is partial and restrained. The children I saw in Rome had gained in self-control, self-criticism, power of sustained effort, voluntary obedience and joy in work.

What modifications and changes in the elementary school may be expected if Dr. Montessori's controlling ideas permeate what is now the kindergarten? These may be grouped under four heads: First, those that will more closely relate this period to the elementary school; second, those that will modify the present course of study; third, those that will change the relation between teacher and pupil; and, fourth,

those that will change the method of teaching and studying. Let us consider each of these in turn.

The present system of education, from kindergarten to university, has been profoundly affected by the ideas of Froebel for two reasons. In the first place, because a large proportion of the children in the schools pass from the kindergarten into the primary grades with good habits formed and much preparatory training already accomplished, and also because kindergarten principles have been applied in all the grades. It is only fair to suppose that in the same way the children who will enter our schools after having received the Montessori training, will of necessity radically change the present system. The first effect, that of a closer, more vital connection between the kindergarten and the primary school, should be, I trust, to break down entirely the fence between them. I should like to see the present kindergarten and the first two years of the elementary school merged into one. I should like to see children pass through this period with varying rates of progress according to their individual capacities, interests and temperaments. This should be

accomplished without undue forcing on the one hand or retardation on the other—the Scylla and Charybdis of school life. Some children would take three years, others more or less; but with no definite "promotion" at the end of each year, the difference between children would not be so noticeable. In the first period, which would combine what is now the kindergarten and the first two years of school, the child should gain freedom, independence, obedience, accurate sense perception, power of discrimination, training in attention through auto-education, power of observation and generalisation, and delight in work, in the joy of accomplishment. His energies should have been multiplied, to use Dr. Montessori's suggestive phrase.[1]

In addition he should have the technique of writing, reading and number and be able to make intelligent and interested use of this technique. He should be self-directive, self-active, with standards ingrained through the development of visual and motor memory,

[1] Since writing the above I have read with interest a reputed statement by Prof. Thorndike, of Columbia University, who voices sentiments expressed by Dr. Montessori in the final chapter of her book. Both believe that the rest for a normal person is in changing, joyous activity.

obtained from the multiple stimuli of a full sensory experience.

Such a preliminary training should make possible several modifications of the present course of study. Much of the time used in drill could be profitably spent in a richer, more intellectual way. If the child has the technique of writing and of composition, progress can be rapid in writing for expression of thought. If the technique of reading has been mastered, much silent individual reading for the delight and knowledge it will give can have a place. If the technique of number and familiarity with the four processes—the tables and so on—has been gained, the way is clear for problem work involving simple geometric and algebraic ideas. Geography, history, modern languages and Latin, if desired, can be begun earlier and have more time allotted to them than is now possible.

The relation between the teacher and the pupils is so radically different in a Montessori school that children living in an atmosphere of freedom and spontaneous choice would be stifled in an ordinary elementary school. The ideals already suggested must be sought for. The relation must be much

more personal than it has ever been. The pupil must be trusted more, left more to himself. He must have his own standards, gained through true liberty and obedience, standards higher than any imposed from without.

All this will lead to a change in the method of teaching. The control of the recitation will be largely in the hands of the class. The test will be not whether the teacher has developed an organised, unified lesson according to the familiar "five steps," but what each child has brought to the recitation and carried away from it. The preparation on the part of the pupils if more spontaneous will be more interested. Habits of attention and effort formed early will insure good preparation.

All this is, as yet, theoretical and has to stand the practical test of experience; and may express an ideal that is, as yet, far beyond our grasp. But it is good for us to reach the mountain-top of vision and with the prophets behold a new earth, a glorious world transfigured by hope and faith and enthusiasm.

CHAPTER XII

THE DEEPER MESSAGE OF MONTESSORI

"Humanity growing in the spirit according to its own deep laws."

A PERVASIVE and integral part of Dr. Montessori's educational system is found in its spiritual and even religious quality, a quality so pervasive and so integral that it seems difficult to treat of it in a separate chapter. Yet because I have seen with solicitude in the numerous discussions that have followed in the wake of the interest first aroused in the method, a marked absence of appreciation of this important feature, I shall try to place a greater emphasis than the scattered references throughout this book have given to the essentially spiritual or religious nature of her conception of education which embraces in its scope the moral and social regeneration of humanity. Italy has given to the world one renaissance, that of art. Can we now accept from it through this spiritually-minded woman a second renaissance, that of education? What do we

mean by renaissance? Of what is it a rebirth?

If we analyse carefully that quickening of life that came to the dead medievalism of the fourteenth and fifteenth centuries, we shall find in it the following elements: a rediscovery of the Greek ideal of harmony between the physical and the mental or spiritual nature of man; an affirmation of the dignity and worth of each human soul; a rebirth of freedom of thought and of action; and as an effect, a wonderful expression after centuries of repression, of creative energy seen in the efflorescence in letters, in art and in life—an expression which in both art and letters had a permanent because universal quality. Dante, Michael Angelo, Raphael and Shakespeare "were not of an age but for all time." Freedom through abundance of life, freedom to live, to create, to express seems to be the central idea of the Italian Renaissance.

Let us analyse in a similar way the philosophical ideas which give permanence and universality to the Montessori Method and make it a real contribution because it suggests the way to a similar rebirth in education. We recognise in Dr. Montessori a

dignity and repose which are the outcome of serious thought and the authority of one who gives out to the world that which has come from a deep spiritual experience. We find in her educational principles elements of permanence and universality, because they are founded on the hidden laws of humanity and can therefore be applied to all conditions whether of race, environment, or class. We see in her affirmation of the child's right to liberty and to the free expression and consequent multiplication of his energies, a reverence for the individual based on a belief in the innate goodness of each soul which is radically opposed to the medieval doctrine of sin. In her belief that the love of learning for learning's sake and that the religious sentiment also are instinctive in a child we see a justification for her method which provides for the education of the body and the spirit according to the laws of his being. We find also as a result of this doctrine of freedom a faith in the possibilities latent in each child which by spontaneous expression and wise direction may lead to complete spiritual as well as physical and moral development.

A rebirth or renaissance in education ought

to come as a result of a true scientific pedagogy founded on the results of the observations of and experiments with—by teachers who are at the same time scientific and sympathetic—the spontaneous manifestations of child nature expanding in true liberty. This conception of liberty, which, as I have already sought to explain, is so much broader than any yet accepted in our schools, includes liberty of the spirit; and the observation of the child under conditions of real liberty will establish a true pedagogy because it is in accord with the laws of spiritual growth. Education will then proceed by a natural method corresponding to the processes of growth in the child as he passes through the various stages from the early life of instinct, of sensation, of muscular co-ordination to that of fully developed consciousness. It will be a method based on a rational organisation for each child of his work and of his liberty and on the deeper spiritual laws including both activity and liberty.

The results of such a method should be to give a new meaning to morality and to social conditions. They ought to prove that moral training, now sadly lacking in many of

our schools, cannot be divorced from education. Such moral training ought to decrease juvenile delinquency as well as the vice and crime so prevalent among the youth of great cities. Montessori claims for the children in her schools that "they have set their feet in the path leading to righteousness because it was the only way to attain true self-development and learning; and they enjoy with simple hearts the fruits of peace that are to be gathered along that path." Self-control, liberty through law, poise, disciplined activity, self-reliance, respect for collective order, for the rights of others, hospitality, courtesy, kindliness, these and other moral qualities are to be found, as I have seen, in children brought up in the atmosphere of freedom which a Montessori school creates. These are positive qualities coming from opportunity for self-expression, rather than negative ones arising from that self-repression and timidity, which, owing to a false code of etiquette, used to be more than it is now the characteristic of school children and has not even yet been fully eliminated. The moral instincts are watched for and wisely directed into habits of action, the spontane-

ous desires are directed towards wise choices, the native interests are encouraged through ample opportunity for expression; and so character, which springs from habitual action, choice and interest united into a "fixation of modes of willing," is perfected simultaneously with the physical and intellectual powers.

One element closely allied to this moral culture, holding an importance all its own, is that of æsthetic training. As the love of beauty is deepened and power of artistic expression increased from the refining of the senses, the child is led not only to observation and appreciation of nature and of art but to creative and imaginative expression. This sense refinement opens to the child a new world of beauty and gives him a higher delight in colour, in form, in motion and in sound and so prevents his finding pleasure in coarse, unrefined appeals to untrained senses.

As to social conditions, Montessori shows herself a true reformer; her aim is nothing less than human regeneration and her method is not iconoclastic but constructive. She desires to reform society and in order to accomplish this she would reconstruct the

environment of the child in the home and in the school; bring about a closer co-operation between these two factors in the child's life, and give a new and higher meaning to a home as the dwelling of the family which is to further the perfection of the species "and to send the race triumphantly forward." To this extent, then, she is socialistic, and the full significance of her method cannot be appreciated unless we realise the possibilities inherent in her conceptions of a school within the house, socialisation of the house, and its transformation so that many of the so-called feminine duties are communised. Her vision of the social and economic evolution of society has shown her the necessity for a socialised home in order that many of the problems arising during the process of this evolution may be solved. She realises that the changes in both social and economic conditions have made woman's relation to the home very different from that which it was in an earlier stage before the complexities of modern life had sent outside the home many of the activities which made up the life of our grandmothers and had demanded of the woman that she, in the great majority of cases, be a wage-earner. This

new equality of opportunity, this new duty imposed on the majority of the women of to-day, that they actually contribute to the support of themselves and their families, necessitates that in order to be given time and strength for such work they must be released from what used to be considered paramount duties. A house communised, with a school within its walls which will take upon itself much of the care of the children of wage-earners, will make possible a new happiness, a new repose, and a higher union between the father and mother who return to it and to their children after a day of toil. The modern conception of eugenics —the conscious betterment of the race— may in this way be furthered.

Dr. Montessori's ideas of social regeneration include as an ideal for the school that it shall abolish illiteracy by giving to children under seven the technique of writing, reading, and number, so that when they arrive at the working age instead of leaving school with little or no training, they will have mastered at least the rudiments of education. She would also prepare for industrial efficiency by helping each child to determine his vocational bent as the spon-

taneous manifestations of his nature lead to keen observation of his capacities by the teacher; and as complete sense training and muscular co-ordination prepare him for special training later in life. The higher wage which would come as a result of this efficiency, would raise the standard of living of one great division of the social order, the labouring class.

While, then, Montessori would regenerate through the home and the school those members of society who form the great army of wage-earners, she does not limit her efforts to that class only. Her spiritual message comes with equal force to the fortunate ones of the earth, those to whom are given leisure with opportunities for education, for altruism. Her appeal to them is that they use their leisure, their opportunities, in co-operation with the school so that they may unite with it in creating an environment and a power of direction which shall liberate, energise and perfect human nature.

Thus does Montessori point the way to a reformation, the natural outcome, as history proves, of a true renaissance, and this I believe to be her deeper message to our age.

CHAPTER XIII

A SUGGESTION FOR THE SUMMER

A Montessori Playhouse.

Schools and teachers, in America at least, even if not to the same extent in England, are greatly hampered in their work with children by some unfortunate features which are made necessary by conditions of climate and habits of living. Chief among these perhaps is the long summer vacation. Almost all teachers know the feeling of discouragement that comes to them twice a year at least (especially if they are connected with a private school), in the fall when the golden autumn days tempt families to stay later and later in their summer homes and again in the spring when the call of the awakening year is too strong to be resisted, and when, long before the school term is completed, the classes dwindle and the pupils melt away. In view of these conditions, which must be frankly met, it should be possible to make some use of the long idle summer without

in the slightest degree interfering with the out-door life so wholesome for children. The Montessori system of education with its principles of liberty, spontaneity and individuality and with the opportunities it furnishes for work in the open air, may be found a means of using the summer time so that our children may have healthy mental as well as physical growth.

It may be helpful therefore to groups of mothers, who for many weeks of each year settle down in some quiet place in the country if, by way of practical suggestion, I give my own experience, when I gathered a group of children about me in what they called a "Montessori Playhouse," in the summer of 1912.

In England where little children are taught in the nursery and where country seats are more isolated than with us, the conditions of the problem differ. With the spread of Montessori ideas and with the return from Rome of trained directors, however, opportunities will arise for nursery governesses to fit themselves for this work in both countries.

"Nancy," I said one morning, "would you like to help me make a Playhouse?

Then we can ask some children to come every day and use it with us."

Nancy is a little over three, small for her age, but full of life and vitality. An only child, she and her mother spend the summer with her grandmother, who is our next-door neighbour, in a Long Island village near the sea.

The Playhouse I had in mind seemed to me quite ideal as a place in which to make the experiment I had longed for ever since I returned from my study of the Montessori methods in Rome. According to the pleasant Long Island custom of planting trees as boundary lines, a row of stately oaks formed a beautiful background to the little house, while in front was a windmill, an orchard and a vegetable garden. The building itself was originally intended for an ice house, so was cool and airy, with plenty of floor space. We covered the floor with canvas on which we threw down each morning a Navajo rug. Chests around the wall covered with a Bagdad curtain (for the place had been used as a storeroom) held the Montessori material very nicely, while two bridge tables and some empty boxes covered with felting served as

tables and seats for the children. Boughs of pine and bunches of golden-rod decorated the walls, and some nails driven into them at the proper height gave each child a place for his hat and coat. A bird-house which the starlings had deserted the summer before placed outside near the door made an ideal apartment house for several families of paper dolls.

Nancy saw with delight the possibilities for good times latent in this simple place and helped me make it ready with a woman's wit quite unexpected in a three-year-old. We decided on the following children to complete our family: John, nearly four, who lived across the way; Mary, about five, who was visiting in the village; Caleb, another neighbour; and Ira, the son of artists who made their home not far off. By a curious instinct, common to boys and dogs, Billy, a son of the farmer who took care of John's place, and Fuji, our beautiful red setter, appeared the first morning and regularly thereafter.

Fuji, with his wonderful sense of what is fitting in a well-bred dog, never once entered the playhouse itself, but established himself in the shade nearby, ready to join in the

NANCY'S IDEAL HANDS

games outside when he was useful as a sheep or cow in "Little Boy Blue" or as "Old Mother Hubbard's" dog. Billy announced the first day that he "helped Miss Stevens," and as he was two years older than the others, this attitude of mind enabled him to use any of the material with no blow to his pride.

The children and their mothers accepted Nancy's and my invitation with alacrity, and half-past nine each morning found a group of children waiting for me to appear with the key.

At first Nancy, who sadly needed the Montessori training in liberty, would not come without her mother or aunty, who were obliged to join in the life of the party, but in a few days she took a pride in coming and going by herself through the hedge and across the lawn which separated her home from ours. She always bade the playhouse "Good-morning" and "Good-bye" as regularly as she did the children and myself.

Each child, after he had hung up his hat, parasol or coat on the proper hook, helped to get the playhouse ready. Ira and Nancy took possession of the two long-handled hearth brooms I had provided, but

John, real boy that he is, seized upon the "Little dirty broom" with a broken handle, which I had hidden away, and Billy, in his character of assistant, always used the only "Grown up broom" in the place. After the floor had been swept, the rug laid down, the boxes covered and numerous pieces of the Montessori material dusted, which Mary liked to do, we were ready for our "Game of Silence."

The first morning each child had chosen from the boxes of various heights the one suited to his size and went to it thereafter as a matter of course, except Billy, who took a camp chair, while I had the one full-sized chair in the room.

I was glad to see that this game of silence appealed to American as it does to the Italian children, for the former need the training in self-control and inhibition even more than the latter. These warm summer days in the very heart of nature seemed formed for nature teaching, so I modified somewhat the game as I saw it played in Italy while keeping to its spirit. It was difficult at first for the children to isolate their senses by closing their eyes, but after a few days even Nancy, who had been

the most timid, sat in perfect quite on her little blue-covered box, her eyes closed, listening to the sounds outside. "What do you hear, children?" I would whisper softly. "The windmill," one would say; "The crickets," another; "The wind," a third; and then someone would distinguish the merry-go-round in the distant village. Then I would softly call to each in turn to come to me and name with his eyes closed the odour of cinnamon, coffee, tea, pine needles, nasturtiums, or geraniums and so on, which I kept in little boxes. Each child had his favorite odour. Ira always chose cinnamon and Nancy tea.

After the children had used the boards for teaching rough and smooth, one would often silently bring me a rough stone, another a smooth one, or a rough pine cone as distinguished from a smooth pine needle, or an oak leaf contrasted with a mullein. I also varied their number exercises by giving a whispered command to each child to bring me two acorns, or five pine cones, or six nasturtiums as he or she had the number sense developed. This silence game ended when each child went to the side of the room where the regular Montessori material was

arranged and chose his or her own game. I found some difficulty at first as a child was more apt to say "I don't want to play this" than to choose some part of the material, or else several would want the same thing. Here, then, was an opportunity for Montessori discipline and the development of the social sense, to which most of the children responded quickly.

It was also interesting to notice the choice of each child. Ira, the little artist, wanted the metal insets for design and the coloured pencils or the boxes of reels wound with silk of many colours and shades. Mary, more practical, would take the frames, beginning with the buttoning which she could do easily and finishing with the bow-knot which was very difficult for her. Nancy, the woman in miniature, loved to play with the fabrics and quickly learned the difference between velvet, silk, woolen, linen and cotton; while Billy, after amusing himself in a shamefaced way with the same games the younger children were using, would take the box of script letters or numbers. While he was the only one who had attended school, he had not had any manual training and was behind the little ones in the use of

his hands. Ira announced gravely one day, "I think I can draw better if I can have the cinnamon box open so I can smell it," and was quite disappointed in Nancy because she did not care to smell tea as she worked!

Mary when at home had an inveterate habit of romancing so that her family felt that she had no sense of the difference between fact and fiction. It was most interesting, therefore, to note that this undue use of her imagination would be in abeyance during the entire morning while she was absorbed in doing something in the right way and seeing things as they are. In fact, I found these games a wonderful help in early lessons in the difference between right and wrong.

John was in some ways the most interesting because the most difficult child to deal with. Although not, like Nancy and Ira, an only child, he had much less social sense, and though he was quick in his movements and unusually strong for his age he had very little idea of organised play and delighted in merely making a noise. He would choose the Tower, Big Stair, or Long Stair, but wished to use them in his own way to build a railroad track or train

of cars. Only gradually did he use them intelligently. - why isn't what he did also "intelligent"

After Ira had learned perfectly the use of the frames for lacing, buttoning, hooking, and so on, I gave him a lesson in braiding with three strands of rope tied to a chair. A better way would be to use three colours just as two colours are used in tying the bow knots. I found this braiding excellent also for teaching left and right. After he had braided the strands of rope together he was delighted to braid Nancy's soft baby hair. In fact, the mothers told me how the children applied the ability acquired in the playhouse after they went home. They put away their playthings as they never had before, left things in order, dressed and undressed themselves and showed in every way improvement in self-control.

When the children got restless I improvised some gymnastics. For the walking on a line, which I saw so much of in Rome, I substituted the cracks in the floor between the wide old-fashioned boards, each child choosing his own crack, or I had one child lead the others up and down the stripes of the Navajo rug. Ira threw himself down one morning on the floor and pretended to

swim; an ideal exercise which I was glad to see all of the others attempt. Much of our work was done out of doors on the grass under the shade of the oaks or in the orchard, where a rug spread on the grass and some boxes would hold the material.

I found a helpful extension of the drawing with coloured pencils in making paper dolls. I had made simple outlines of dolls of various sizes and kinds, father, mother, big and little sisters and brothers, and cut out plenty of these from heavy white paper. The children delighted to colour these with their pencils, which gave them the same preparation for the technique of writing as the drawing of the designs with the metal insets and appealed as well to the American child's love of making something for use. In the bird-house I have already mentioned were five or six rows of holes with little balconies in front, so each child had his own floor in the doll apartment-house and his own family of dolls.

At recess, the children dramatised many games in the open air. Ira taught them to play "Jack and Jill" and would carefully select a little rise of ground for a hill and a low fruit tree from which to fill his pail of

water, and he, with Mary or Nancy as Jill, would delight in their roll over and over in the soft grass. John loved to turn one of the boxes upside down for a chicken coop, in which he, Caleb and Nancy would chirp as little chicks. Mary would be the mother hen, and Bill or Ira the rooster, while I was expected to make the various calls which would bring each to me.

Nancy loved to play "Rock-a-bye Baby," when she would roll in great glee off the box at the moment the bough was supposed to break, or "Ring around a Rosy," which she wanted over and over again. Mary taught them how to play "Little Boy Blue." Ira quickly made a horn of brown paper and lay down on a hillock, while the other children with Fuji, the dog, were the sheep and cows. After these and other games out of doors the children would have a drink at the windmill, wash their hands and go back to the playhouse to be quieted by another game of silence and then to choose a Montessori game. Before they went home they would prepare the playhouse for the next day by putting all the material in order, rolling up the rug and folding the box covers.

This first experiment in a summer Montessori school lasted only a few weeks but I am enthusiastic in my belief as to its value. American and English children during the long days and weeks of the summer have been left too much to unintelligent nurses and need the self-training and organised intelligent play that such an adaptation of the Montessori idea can give them. Even in the few weeks and short hours of each day the children spent with me, the results obtained were most gratifying. They learned respect for and care of the material, would come to it with clean hands, take it up carefully and replace one game before beginning another. They gained in self-control and power of inhibition through the various games of silence. They learned to enjoy intelligent, organised play to some definite purpose and preferred it to the disorganised activity which is so common in America. They learned to enjoy their senses through isolation. Pleasure from the sense of smell, hearing and touch revealed new worlds to them as their power of observation developed spontaneously. They learned fine discriminations of colour, size, sound and weight as they played with the

reels of coloured silks, the Big and Long Stair, sound boxes and woods of various weights.

In the way of social training they learned the beginning of a sense of responsibility in caring for their own house, of hospitality in welcoming the parents who visited it, of pride in making it pretty with flowers, of collective ownership in the material which they used together and individual rights in the separate use of the various games. They gained in liberty. Nancy, the most petted and dependent of them all, who had literally lived with her hand in that of an older person, went back and forth alone, put up and took down her own material, swept and dusted the room, shared the games with the other children and at home dressed and undressed herself and put away her toys. She learned very quickly the sandpaper figures from one to five, which she placed correctly on the Long Stair, and some of the letters. Naturally graceful and deft, she was beginning to get the technique of writing through using the metal insets and the coloured pencils.

She gave one day an example of the effect of the sense training on her power to observe. She had used the circle in the set of wooden

insets, tracing its outline with her finger and then the corresponding opening in the square. She had also traced its outline on paper with the metal inset, filling in the space thus made with her coloured pencils. One day as she ran home after her morning in the play-house her grandmother's greeting to her was "Will you join our circle, Nancy?" Nancy looked gravely at the group seated on the porch, answered, "That is not a circle," and proceeded to make one with the chairs.

I could note similar growth in all of the children. Mary, who was only at the school for ten days, gained in that short time in power of attention and concentration. I found she had the brightest, most alert mind of any of the children, a "wireless" ready to take messages at any moment. Her verbal memory was not as strong as Nancy's but her powers of association were wonderful for so young a child. Her imagination was so overdeveloped that the training the material gave her was especially helpful. She is an example of the American child whose imagination is so active that it will derive great benefit from the Montessori material as a guide to truth and right.

I hope that by another summer there will

be many teachers trained in Montessori methods and in sympathy with its spirit, who will open many houses of play in our scattered summer communities, where I think they will find groups of parents ready to co-operate with them and many children eager to become tenants.

CHAPTER XIV

A SUGGESTION FOR THE SUBURBS

"The property of the collectivity."

I AM indebted for the idea which started my imagination to work out the details of this chapter, to one of that army of mothers who have responded so earnestly and so cordially to Dr. Montessori's ideas and who are in one way and another making practical experiments. The conditions in the suburb where this mother lives may be duplicated all over the country wherever a large city has surrounded itself with small centers of country life with few municipal privileges and no municipal institutions such as schools or shops. These smaller suburbs are, in many cases, largely populated by young married people who have only moderate incomes. They must live near the city, the business or professional home of the husband and father. They prefer a real home, with country advantages of space and freedom for their children, to a small apartment in a crowded city block. Many of

these families live simply, perhaps with only one maid, so the care of the children falls largely upon the mother. Yet she is young, full of life and spirits, very probably a college graduate, and the call of the city comes to her with tempting force. Galleries, concerts, theaters, opera perhaps, shopping, lectures, all these good things beckon her and are within easy reach, too, for the different railroads take care of their suburban patrons. Must there be a conflict of desires here? Ought her hunger for art, music, drama, pretty things, to go unsatisfied because she is torn between duty to herself and her children, because she must keep the little boy or girl out in the air or take the maid's place on her afternoons out? Or may she with a clear conscience hie herself to the city at not too frequent intervals, confident that her children are in good hands while she is gone?

Dr. Montessori, in her inaugural address at the opening of the first *Casa dei Bambini* looks with a prophet's vision into the future and sees "a socialised school in a socialised house, the property of the collectivity," where any mother, who is forced by modern conditions of wage earning to work outside

the home, may leave her child secure in the feeling that it will have the same care as if she were a princess, because "the feminine duties have been socialised, the house has been transformed and now assumes many of the functions of the mother." Let us also have our vision, young mothers of the suburbs, of a "Children's House" built for the purpose with money from a common fund. It is centrally situated with plenty of ground about it but it is very simply built; it may even be a tent on a large platform. It is built to conform to a children's scale; the windows are low, the grounds arranged for children's play and children's gardens. Outside the house are wide piazzas for use in stormy weather. Inside, one passes first into a central hall with cloak and dressing rooms at the sides and back; at the right is a large square room with windows on three sides. In the corners are large plants, in the window-boxes are flowers; bird-cages hang in front of some of the windows. The furniture is white enamel with a blue line for decoration. Tables and chairs for all the children take up only half the floor space, and are low, light, yet firm. On the free floor space are squares of felt carpeting or

lines drawn for marching and other gymnastic work. Around the walls, between the windows, are cases where the material is kept, and low blackboards and chests of drawers where each child may keep his finished work. On the walls above the shelves and blackboards are some good pictures, the "Madonna of the Chair" for one. On the shelves are vases for flowers and artistic pieces of pottery. On the opposite side of the hall a door opens which leads into two rooms, each one-half the size of the schoolroom. The first is for rest and recreation. In it are little tables with picture-books, toys and games. In one corner is a piano; across other corners are swung hammocks, while around the walls between the windows are shelves made in compartments, where each child may keep his own favorite books, playthings or collections. Back of this room comes the lunch room. Here we find square tables, so that groups of children may take lunch together, each table having its hostess for the day. Everything is on the same childish scale; the china, glass, silver and linen are kept in cases about the room, to be used each day by the children as the tables are set. Still behind this is a small

kitchen where a cheery, kindly maid prepares a nourishing soup, bakes potatoes and cooks chops or eggs as mothers have ordered.

Let us follow in imagination for the day two little folk, whose mother, for any one of the reasons mentioned, wishes to take the nine o'clock train for the city and stay there for lunch and the greater part of the afternoon. The telephone has called up the Montessori teacher, employed by the Mother's Club to which this mother belongs, who has apartments on the second floor of the school building. She has been told that Mary will come to school to-day for the afternoon as well as the morning, and little Jack will come with her. Will she please ask the maid to see to their lunch as usual? On the way to the train, mother leaves Mary and Jack at the "Children's House" with a light heart and an easy conscience, and proceeds to the city anticipating a day's enjoyment.

It is only a quarter before nine but the children are none too early. Mary is a frequent visitor to the morning session and Jack an occasional one, so they know exactly what routine to follow. Their names are printed above two of the lockers in the hall

where they hang up their hats and coats, and then find and put on aprons with their names embroidered on them.

Then they run into the schoolroom where they find a group of children all busily employed in preparing the room for the day. Some are wiping off the chairs, others the tables, others the window-ledges, tops of shelves and cases. Others water the plants and pick off the dead leaves. Still others take down some of the material and work with it or use the blackboard for writing or numbers. Meanwhile the teacher has come in quietly and been lovingly greeted. The maid, who will help with the lunch later, has busied herself in the cloakroom, helping the very little tots who require her assistance.

The clock on the shelf strikes nine and the teacher takes her chair in front of the double row of tables at each of which are two chairs. The children run quietly to the tables, each taking the seat to which habit has accustomed him when in collective order. Gradually quiet succeeds the cheerful noise of happy children at work; each child relaxes, sits quietly in his place, his hands folded. In turn each responds to the call of his name in a low voice by the teacher. Softly the words

of a familiar hymn are heard and the children join their voices to that of the teacher and then in a childish prayer followed by the Lord's Prayer. Then follows five or ten minutes of talk between teacher and pupils, who tell what they saw on their way home or this morning coming to school. Yesterday was a holiday, so many children have stories to tell of their adventures. Mary and John visited the Bronx with their father and are eager to tell of the wonderful elephants and the other animals they saw for the first time. Others of the children have brought flowers for the schoolroom or plants for the garden.

After this the teacher goes to the board in front of the children and writes down the names of the helpers with the duties of each. John is to lead the gymnastic games. Lucy and Fred are to start the dramatic games in the garden at recess. Jane and four others are to set the tables for lunch; eight others are to act as hostesses; three of the little ones are to spread out the felt carpeting. John, then, as leader, starts for the empty floor space painted thus:

followed by all the children except a few who prefer to look on for a while. They follow him up and down the lines, first on a walk, then on a run; all walking on the balls of their feet and running on tiptoes, waving their arms in rhythm and balance with their feet. It is now half-past nine and the teacher goes to the board and writes "Silence," then draws the shades to darken the room and takes her seat. Again the little folk take their accustomed seats and subside into absolute silence in the darkened room. The teacher, who has, unobserved, slipped to the back of the room, whispers the name of each child, who tiptoes to her without a sound. When all are grouped around her the spell is broken, the shades are raised and each child goes to the case to get any game he likes, provided he has been shown by the teacher its proper use.

Mary is greatly interested in a design she began a day or two before and had not finished, so she goes to the case of drawers and finds her paper and pencils in the drawer which has her name on it. Little Jack wants one of the solid insets which he takes to one of the squares of felting on the floor. After Mary has finished her design,

which her teacher tells her is the prettiest she has ever made, she takes the box of sandpaper letters and traces each with her fingers, giving its sound as she does this. She finds she has learned perfectly all the sounds, so she takes the other box, which has letters in phonetic combinations. Then she gets out from the case the boxes of script letters and rapidly makes on the floor near where Jack is playing this sentence, "Jack came to school to-day," and eagerly reads it to him, as she does so, sounding each word carefully and distinctly for him. Suddenly a thought strikes her: she has just before this sounded "came" with the sandpaper letters and traced it with her fingers. She runs to the blackboard, seizes a piece of chalk and writes in legible, even script the word, "came." It is a revelation to her; she has a new accomplishment; she can write!

It is eleven o'clock and most of the children are on their way to the garden, but she is unconscious of that fact, all her energies being bent on trying her new powers as she writes word after word, until, wishing to share her triumph with some one, she sees the room is deserted, so runs out into the

garden, calling gleefully, "I can write, I can write!" Then she remembers that her name is on the list of those who are to serve at table, so she must have her lunch early. She has time for one game with the other children before she goes into the lunch room, where the maid has placed at a side table, lunch for her and the other little waitresses. While they are eating, the group whose duty and pleasure it is to set the tables come in and proceed in a most business-like fashion. The oldest boy hands out the dishes, four of each for each table; the girls have laid the cloths and the smaller children put glasses, plates, knives, forks, spoons, in proper order. By the time they are ready, Mary and the others, having finished lunch, don little white caps, cuffs and aprons. Two of them run into the schoolroom, where the children have assembled after washing their hands, and say, with a bow to the teacher, "Luncheon is served."

The children march in, two by two, and take their seats, four at each table. The waitresses bring in the soup, allowing each child to help himself, but no one starts to eat until each hostess has led her table in a childish grace, "Lord, make me thankful

for this food and ready to give to those who have it not."

Mary is kept pretty busy; she takes away the soup tureen after she has served the children and fills the glasses with milk or water, then she takes away the soup plates and passes the baked potatoes, eggs or chops, as the maid who has cooked them directs. She has charge of two tables and fortunately—she thinks—one of them is where the teacher is sitting, though she is not a hostess. After lunch she and the others make quick work of washing and putting away the dishes.

In the meantime Jack has caught sight of one of the hammocks and has curled himself up for a nap. Many of the children went home before lunch but those who, like Mary, are there for the day have some happy hours before them. The afternoon teacher has come and with her they have musical training, work in clay, and more games with the material. Jack, rested from his nap, has been happy with a box of colours, with which he has made a rug of shaded blues, grays and pink.

Four o'clock comes before they know it, and they are surprised to see their mother

come in, her hands full of packages. They go happily home, each full of the day's incidents.

It seems to me that this suggestion, like that of the Montessori summer school, is a feasible experiment and would bring in large social, educational, and ethical returns if extensively introduced. The need for reform is urgent in both cases. Why not find a solution of the problem in Montessori?

THE END

270 .5 68